Business Presentation April 10, 2019

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This presentation contains forward-looking statements, including statements regarding the company's plans and expectations regarding the development and commercialization of our technology. All forward-looking statements are subject to risks and uncertainties that could cause actual results to differ materially from those projected. The forward-looking statements speak only as of the date of this presentation. The company expressly disclaims any obligation or undertaking to release publicly any updates or revisions to any such statements to reflect any change in the company's expectations or any change in events, conditions or circumstances on which any such statements are based.

Business Operations Report

Overview, developments, plans, outlook

Overview

- Brilliant Light Power, Inc. is developing a new zero-pollution, primary energy source applicable to essentially all power applications wherein the latent energy of the hydrogen atom from water molecules serving as the fuel source is released by forming Hydrinos®, a more stable chemical form of hydrogen. The SunCell® cell was invented by Dr. Mills to release this energy as brilliant light converted to electricity at an anticipated cost of a small percentage of any competing source of electricity.

- *Brilliant Light Power's path forward is to:*
  - *Prove our power source to the world in the near term through power measurements, identification of the Hydrino® products of the reaction, and engineered power systems.*
  - Develop the technology
  - Engineer products
  - Commercialize solutions

CONVENTION DEFYING INVENTION on a PATH to WIN

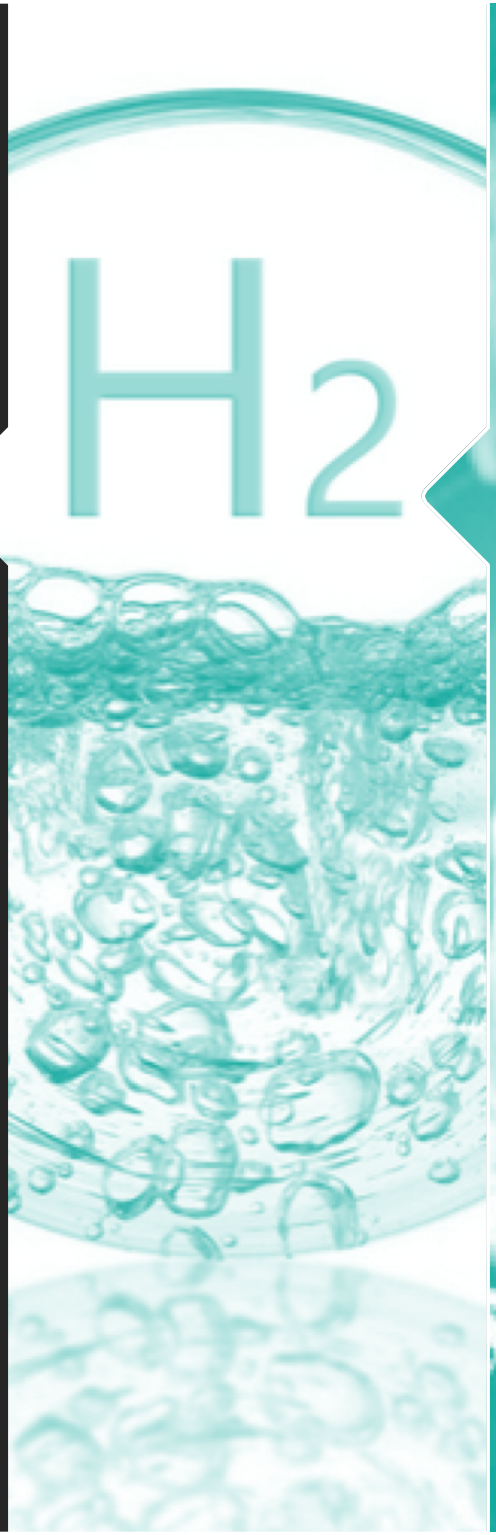
Hydrino® was precited from physical laws. Its existence as a more stable chemical form of hydrogen, a state below the ground state of quantum theory, disproves quantum theory. The SunCell® is disruptive of essentially ALL energy and power infrastructure.

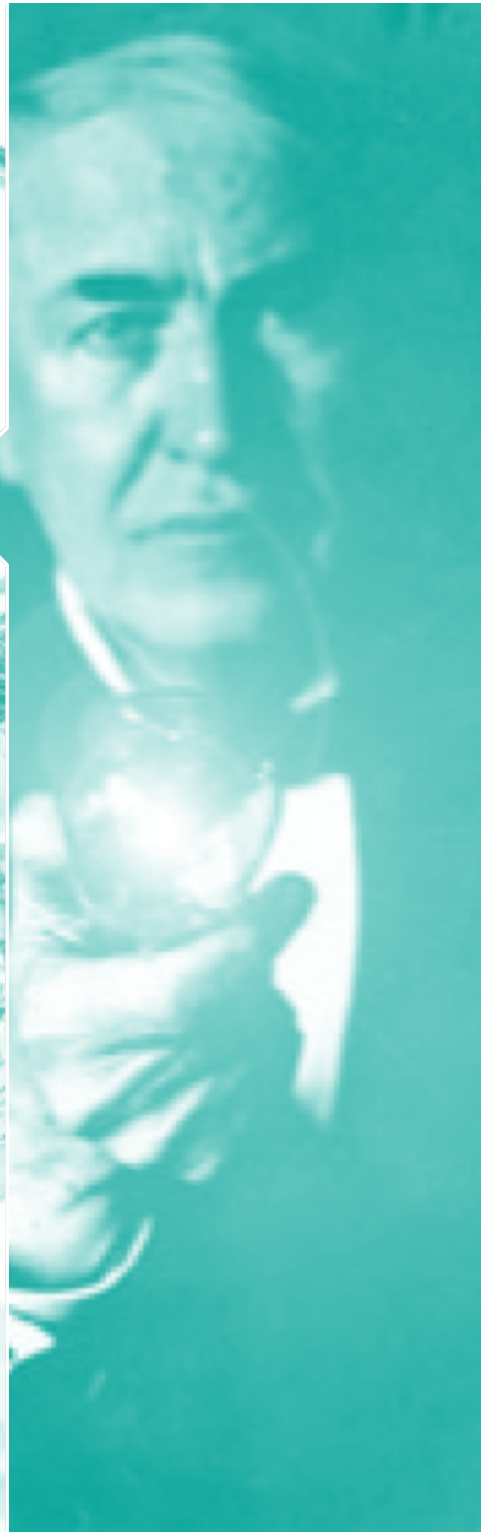
Despite odds, the Brilliant Light Power's is on a path to success:

- Theory Validated
- Hydrinos in a Bottle
- 10 MW-Scale Optical Power Validated
- 100 kW Thermal Power Validated
- Engineered Continuous Power Systems
- SunCell® and Hydrino Validation in Progress

About Brilliant Light Power

- Reinventing electricity, independence of being completely off grid and independent of fuels infrastructure
- New, sustainable, nonpolluting energy
- Technology and science validated by independent third parties
- Extensive proprietary methods and systems
- Electricity company, sales via lease agreement, no metering
- Partnership & outsource business model
- Transitioning from research to reality
- Profound implications for electric power – accessible, affordable, clean





Hydrino® energy key points

Investment of $100M+, years of research, success and invention…

- Hydrino® power has a higher power density than any other power source known to man. Recent NIST calibrated results show 20 MW peak optical power as unique signature of a high energy continuum emission spectrum and an energy gain of 200 to 500 times.
- Product Hydrino® “in a bottle” identified by multiple analytical methods.
- The Hydrino® energy source has been validated by more than 10 different methods including the latest, gold standard, NIST calibrated light sources and commercial calorimetry.
- The Hydrino® is ubiquitous in nature, and matches astrophysicists conclusions that so-named dark matter is a different allotrope or different chemical form of hydrogen.
- There are many validation reports published on the Brilliant Light Power website from leading experts, some from unfunded assessments.
- There are more than 100 peer reviewed publications to support the Hydrino® including external scientific authors.
- Every evolutionary step has produced a higher power density leading up to the commercial development of SunCell®.

Key Objectives

1. Develop the Hydrino® theory and technology across multiple markets:
   - thermal power generation
   - electrical power generation
   - novel compounds
   - energetic materials
   - molecular modeling
2. Engineer SunCell® generators for thermal power and electrical power generation with concentrator photovoltaic array and window system and magnetohydrodynamics (MHD) exploiting a novel thermodynamic cycle. (engineering paper written, prototyping in progress)
3. Pursue corporate partners to succeed at developing a commercial SunCell® product. Desired original equipment manufactures (OEM) identified.
4. Plan to outsource development of components of the new advanced SunCell® power source and MHD converter when beneficial.
5. Create value and create wealth with liquidity.
6. Increase public awareness to create opportunities.

Levers to Achieve Future Valuation

- **Theory:** Techniques and unique characteristic signatures to identify Hydrino® are predicted from exact closed-form solutions of atoms and molecules. Formal validation by two physicists.
- **Hydrino® Identification:** Multiple methods demonstrated for measuring Hydrino® product. Hydrino in a bottle. Over100 peer reviewed publications.
- **Power Releasing Hydrino® Reaction:** 20 MW in microliters, highest controlled power density known.
- **Power Engineering:**
  - Focused on a advanced design that has the capacity to generate high power with less complex systems.
  - Newly invented MHD thermodynamic cycle seems well suited for SunCell®.
  - Pioneering innovations and blocking intellectual property regarding the SunCell® power source and electrical conversion.
- **Applications Businesses:** Expand the reach on Hydrino® opportunities to derivative markets such as novel compounds, energetic materials, molecular modeling software business, etc.

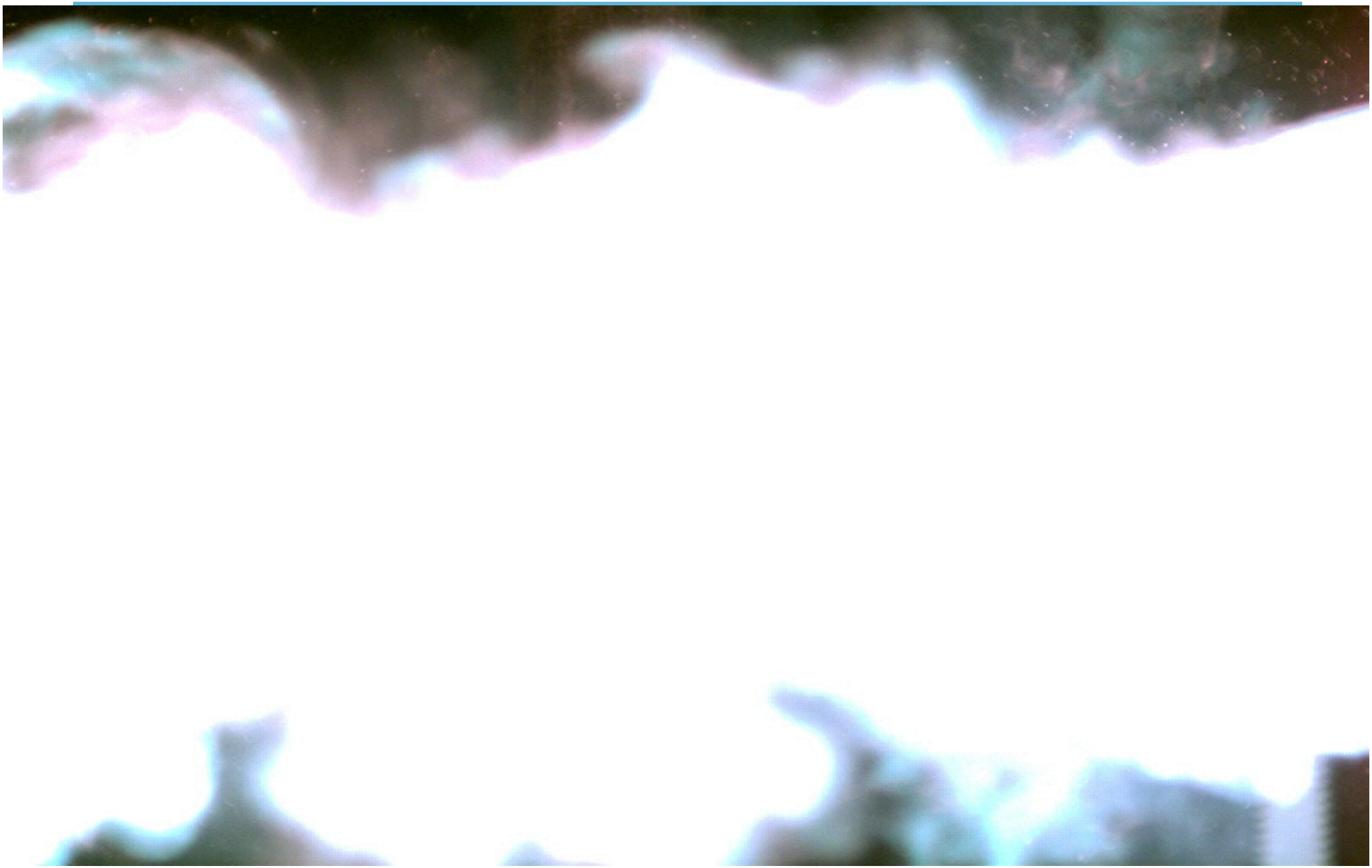
Hydrino Reaction

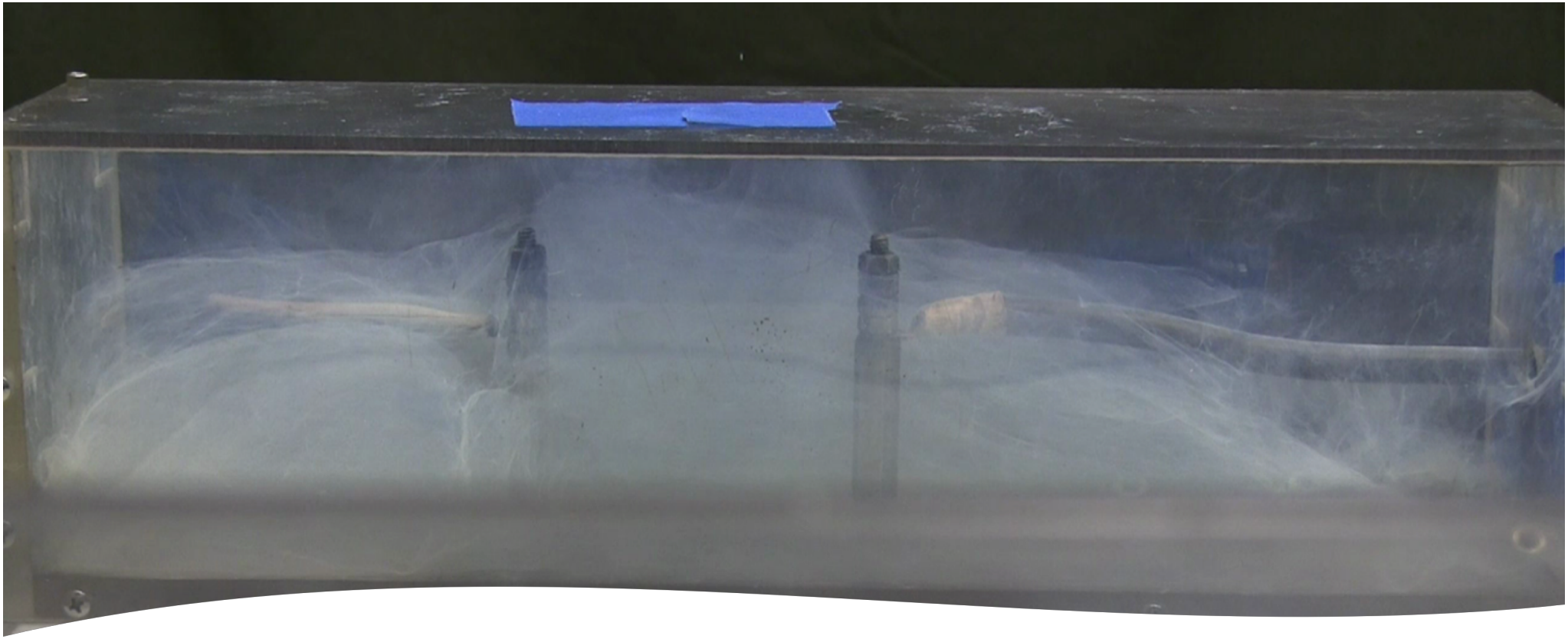
Explosive Power 20 MW from 10 millionths of a liter volume.

The hydrino reaction produces extraordinary and unique signatures such as

- extreme ultraviolet continuum emission,
- an essentially fully ionized, high-pressure plasma based on Stark effect measurement by Balmer alpha line broadening,
- and a shock wave that has recently been determined to be about 10 times more powerful than that produced by the same weight of TNT.

Explosive power video





Novel Hydrino Compounds

The hydrino products comprises a new field of chemistry that will be pursued commercially.

Hydrino Industries

The hydrino products comprises a new field of chemistry that will be pursued commercially.

The energetics of the hydrino reaction produces a shock wave that is the basis of an energetic materials business that will be pursued commercially.

The energetics of the hydrino reaction produces extraordinarily intense short-wavelength light that is the basis of a light source for photolithography, chemical curing, bioremediation and other applications that will be pursued commercially.

The hydrino reaction power can be harnessed by engineered power systems such as the SunCell® having boiler and electrical converter components for the thermal and electrical power markets, respectively.

The molecular modeling software business based on the underlying classical theory will be pursued commercially. Currently 1000's of users have tested the freeware with great satisfaction.

Other Markets of Interest

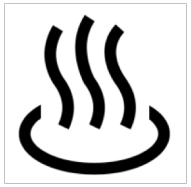
Other multi-billion USD markets exist that can also be impacted by the SunCell invention….

HEAT

Opportunities to use Hydrino® process to produce heat for applications including superheated boilers, heat pumps, sintering and other commercial systems that generate heat as a primary function

LIGHT

Opportunities to use Hydrino® process to produce light for applications that require or generate light to perform their primary function, e.g. Photochemical, material refining, industrial lighting



GAS

Opportunities to use the Hydrino® process to produce Di-Hydrino gas that can be used as an economical replacement for Helium with numerous commercial and industrial applications

Expanding Reach of Hydrino® Opportunities

Novel Compounds

- **Market: $TBD**
- Analytical identification 70% completed for several Hydrino® compounds
- Exhibit unknown magnetic properties
- Samples can be fabricated today
- *Exploring applications with specialty firms*

Energetic Materials

- **Market $ 4.6B**
- Initial data shows superiority to TNT: 10X blast, safer
- Completing test reports
- Partnerships model for material
- *Early stage market opportunity*

Thermal

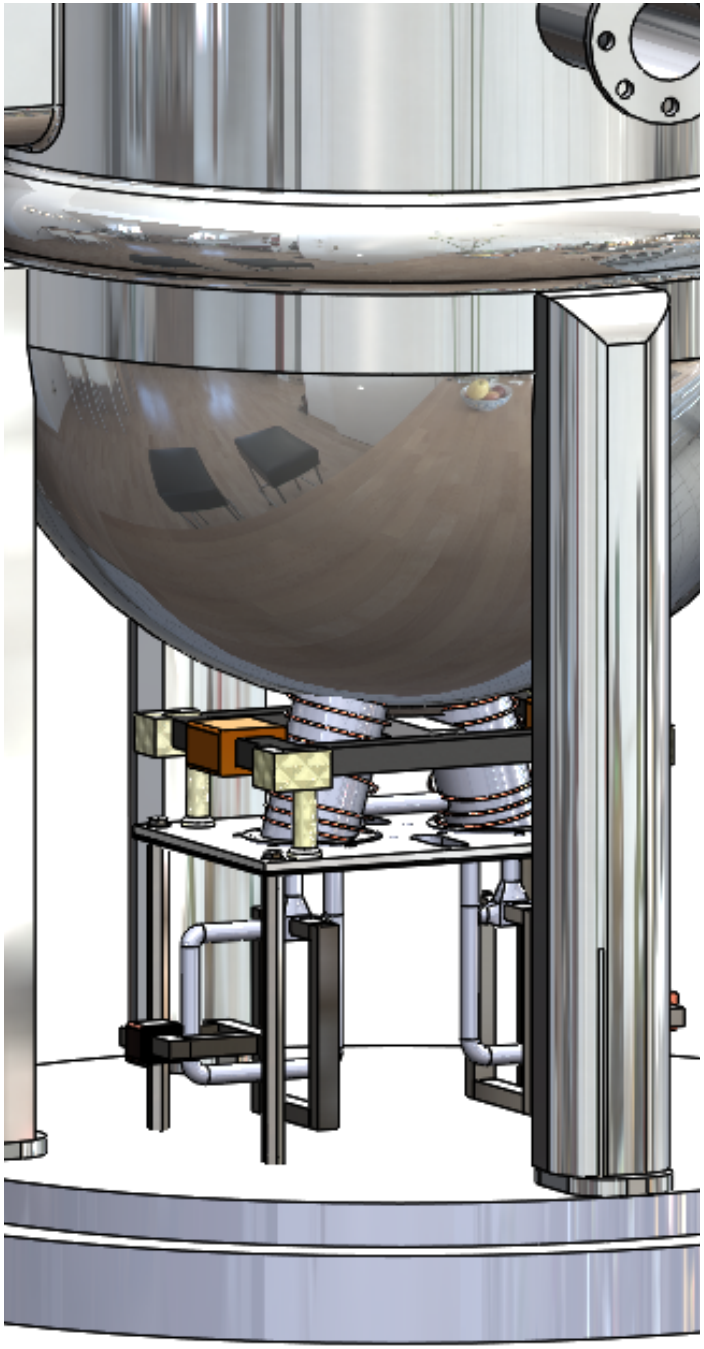
- **$8 T market, BrLP focused on $225B Industrial Heat**
- Leverages SunCell plasma development to date, common subsystems for MHD
- Platform for earlier revenue and testing
- *Outside expert for heat exchanger systems and design*

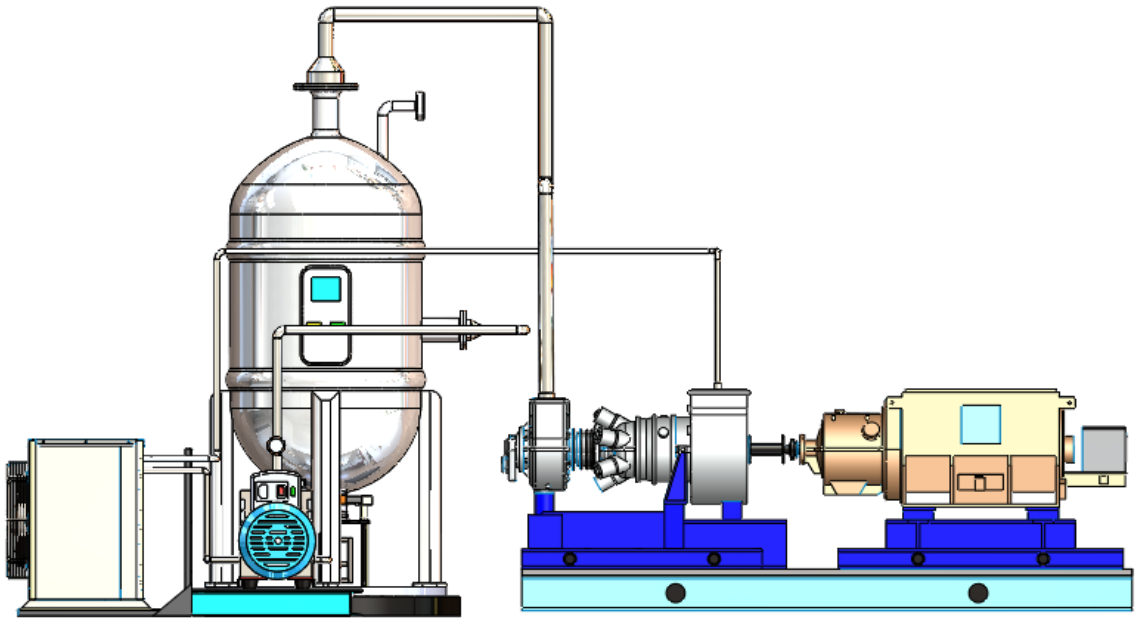
Power Generation

- **$3.5 T electricity market**
- SunCell plasma prototype with vendors to refine subsystems, retire risks
- MHD SunCell design nearing completion; commonality with Thermal
- *Outside experts on board*
- *Adding engineering resources*

Conventional Power Conversion Systems

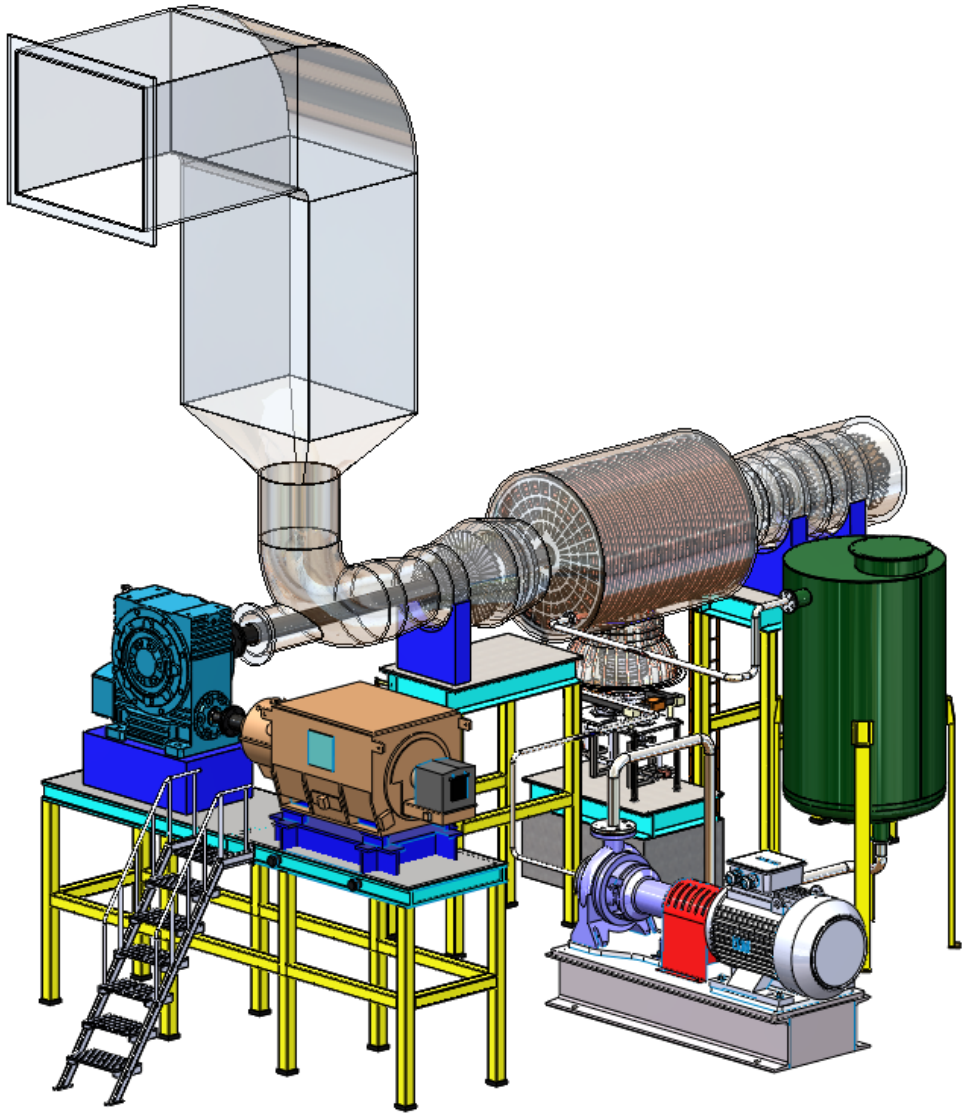
- Supercritical CO_2 Power Conversion System
- Organic Rankine Power Conversion System
- External Combustor Brayton Power Conversion System
- Steam Rankine Power Conversion System
- Sterling Power Conversion System

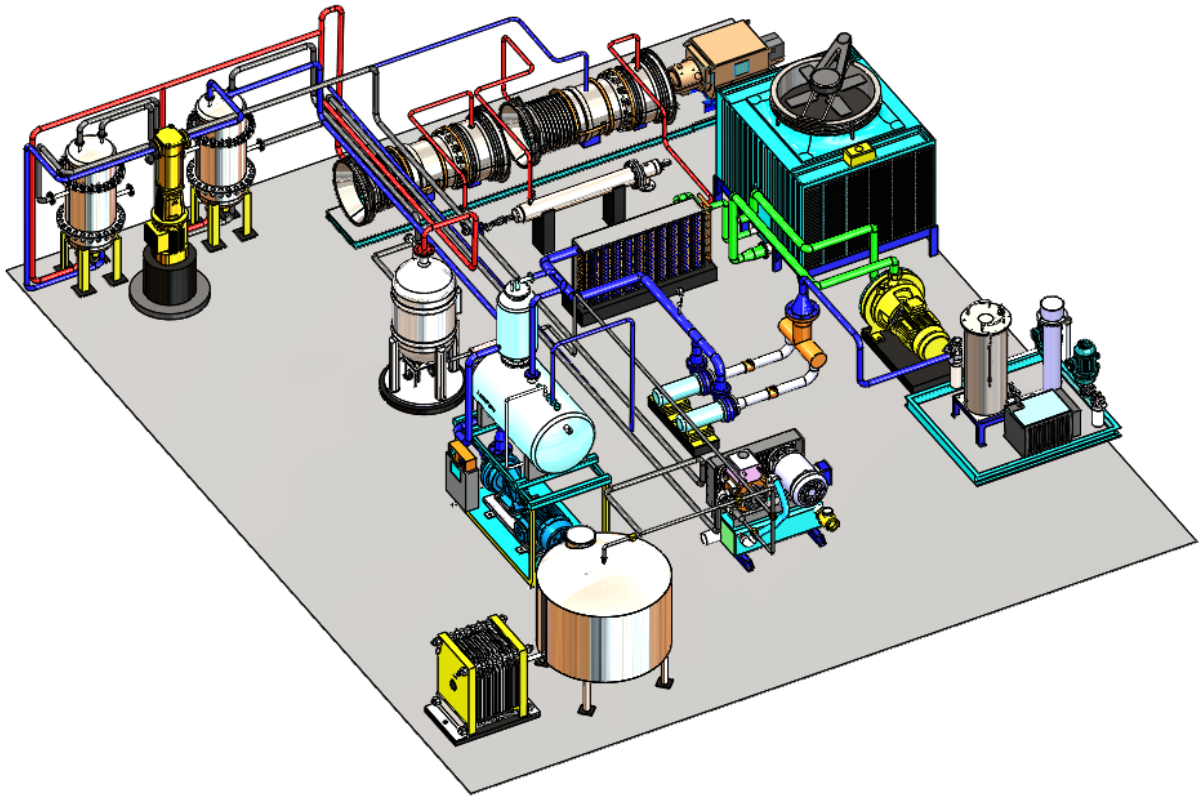




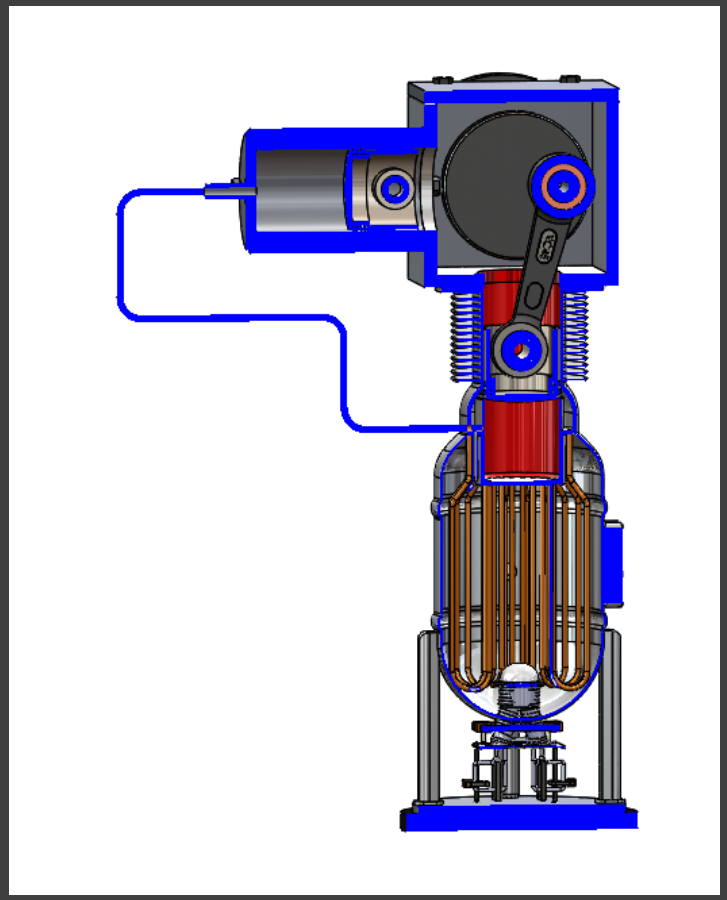
Organic Rankine Power Conversion System

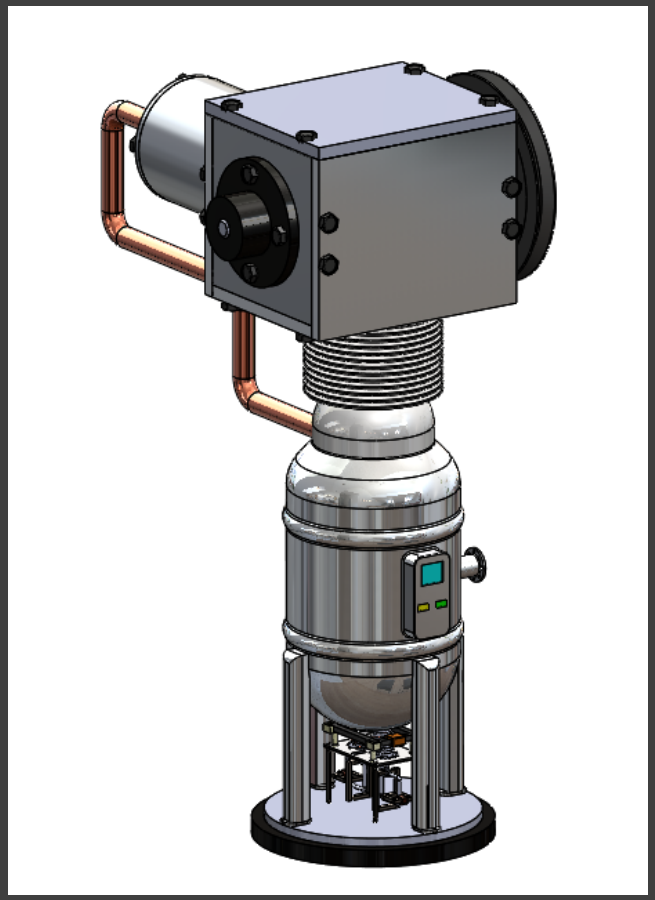
External Combustor Brayton Power Conversion System





Steam Rankine Power Conversion System





Sterling Power Conversion System

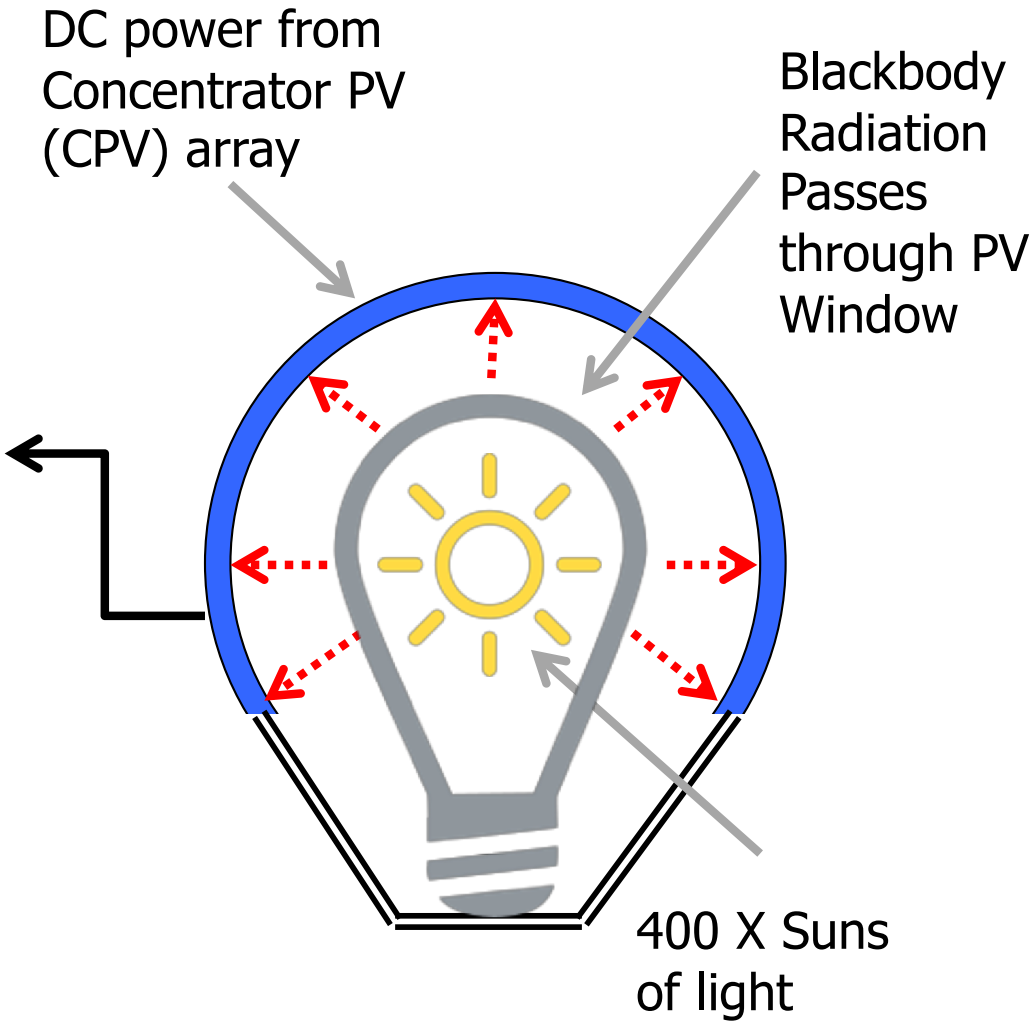
The Power Grid Has Its Downfalls

- Users of electricity supplied by the vulnerable, power grid are left susceptible to loss of service due to physical damage, such as that left in the wake of storms.

- The grid-independent SunCell® cell operates autonomously from the grid and would provide users with a consistently reliable source of energy.

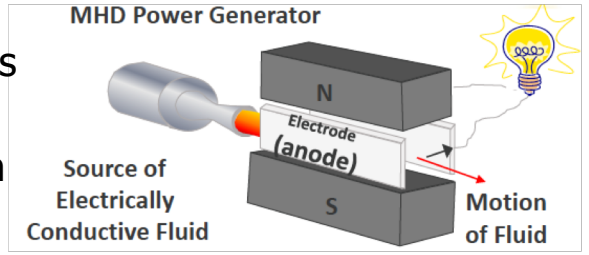
- Concentrator photovoltaic-PV window system and magnetohydrodynamic for grid and fuels infrastructure autonomous power generation.

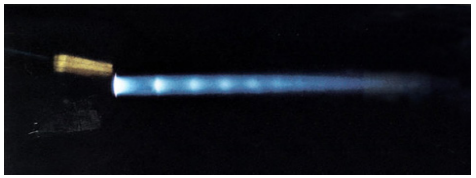
How the SunCell® Works



SunCell Next Generation Breakthrough Potential

- Direct power extraction (DPE), emerging technology to directly convert thermal & kinetic power to electrical power
- Advantages:
  - Basic research development has been supported by energy agencies worldwide
  - Offers breakthrough power generation efficiency (80%+ conversion efficiency)
  - Simplest system physically possible
  - No moving mechanical parts
  - Extraordinarily compact size with DC power output (power density of 100+ MW/liter theoretically possible; 10,000+ times more compact than CPV)



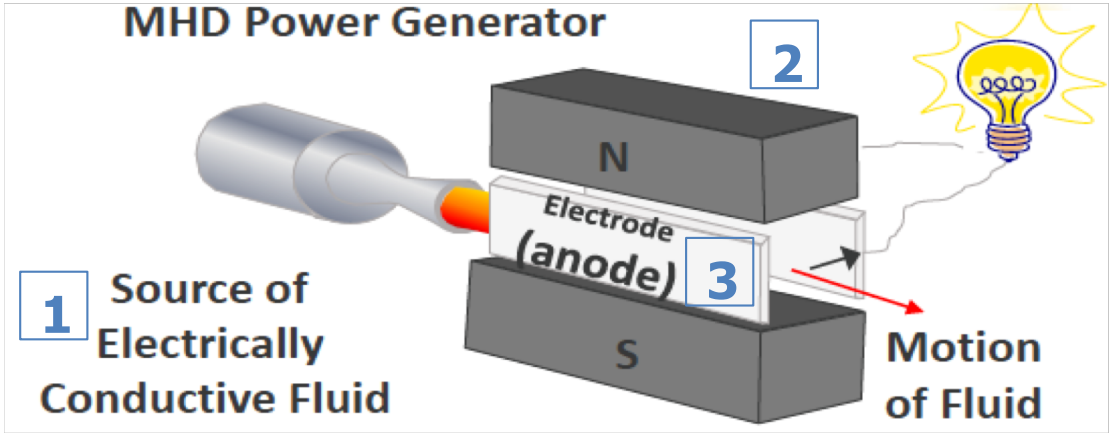


- SunCell-MHD unique advantages
  - Heat exchanger is an infrared radiator with no moving parts or coolant, self adjusts to heat load as T^4
  - Silver working medium protects rather than corrodes the refractory metal electrodes
  - Conductivity 100,000X that of ion-seeded combustion flame with no loss of conductivity with temperature drop in MHD channel
  - Essentially 100% unconverted heat recovery due to molten silver recirculation rather than gases

Magnetohydrodynamic (MHD) Generators

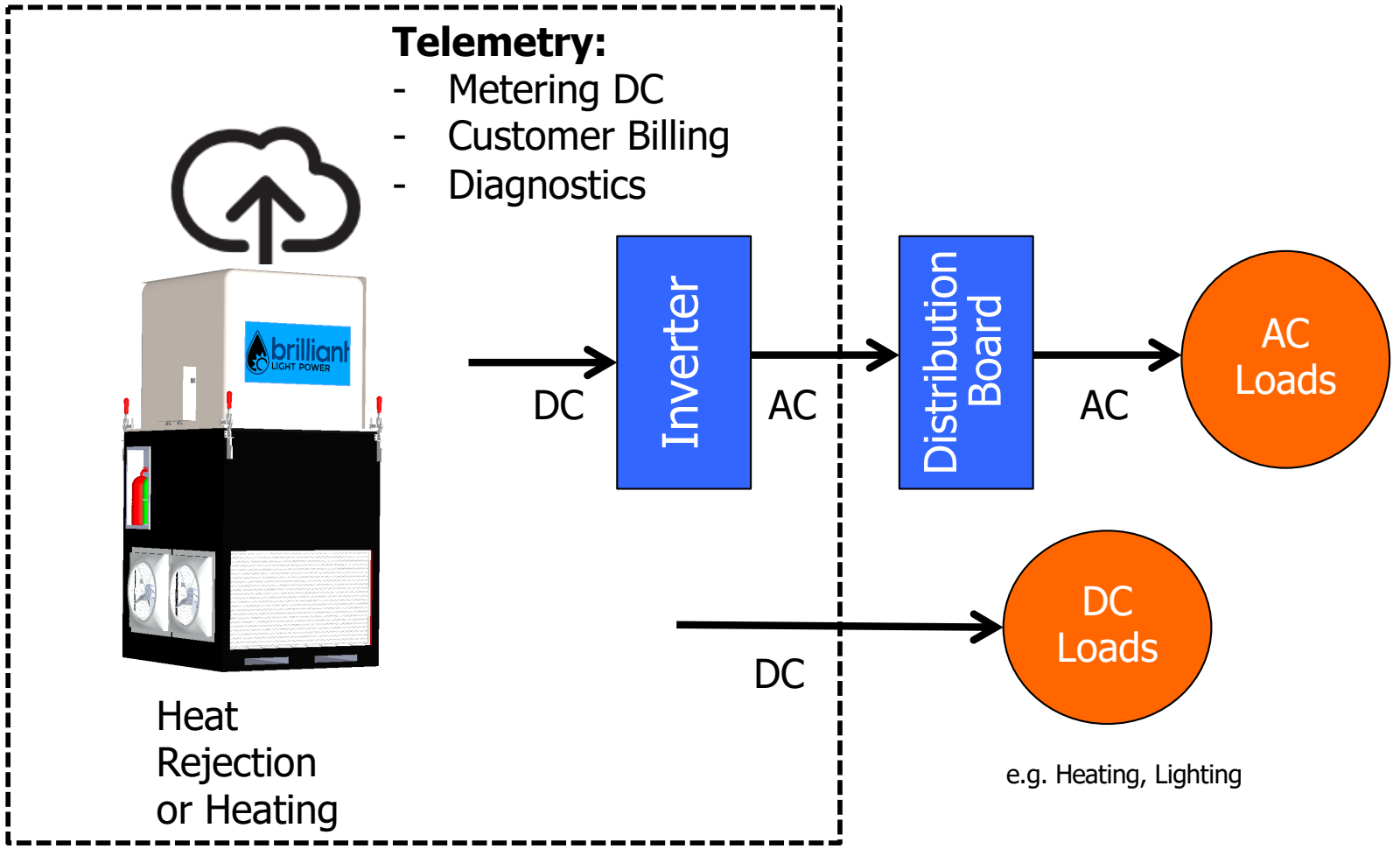
- Typical MHD method is to expand a high-pressure gas seeded with ions through a nozzle to create high-speed flow through the crossed magnetic field with a set of electrodes crossed with respect to the deflecting field to receive the deflected ions and generates an DC voltage output

1. A super-hot plasma is created, ionizing the atoms of the fuel mixture, source of electrically conductive fluid (already in place from SunCell).
2. The magnetic field deflects positive and negative charges in different directions.
3. Collecting plates-electrodes, a conductor through which electricity enters for the charges providing a DC voltage out.



Prototype MHD generators have demonstrated some large-scale commercial feasibility. Failure modes of very low conductivity and corrosion of ion-seeded combustion gas eliminated by SunCell-MHD

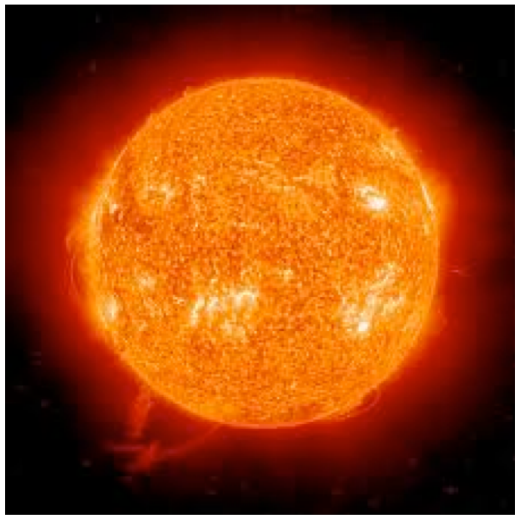
SunCell Turnkey System (Basic)



The SunCell® can support either direct DC loads or AC loads with the addition of standard inverter technology as used by the solar industry today.

The Energy Solution: SunCell®

- Continuous power source, developed with proprietary technology
- Non-polluting: by-product is harmless lower energy state of hydrogen called Hydrino®, lighter than air, vents to space
- System is sealed with H_2O fuel injected with nonreactive, recirculated silver, absolutely safe materials and operation
- Capital cost estimated at $50 per kW at production power & scale, versus $3,463 for solar
- No Metering: Electricity sold at about $0.05 per kWh via a per diem lease fee.
- Low operating cost, only consumable is minimal amounts of water
- Scalable from 10kW to 10 MWs
- Initially heating applications, stationary electric, developing to motive



SunCell Economics

Current Annual Gross Earning Capacity of Any Electrical Generator:
- $1/W

Capital Cost:
- $60/kW

Life Span:
- 20 years

Capital Cost Annually:
- $3/kW

Solar Capital Cost (2013):
- $3,463/kW[a]

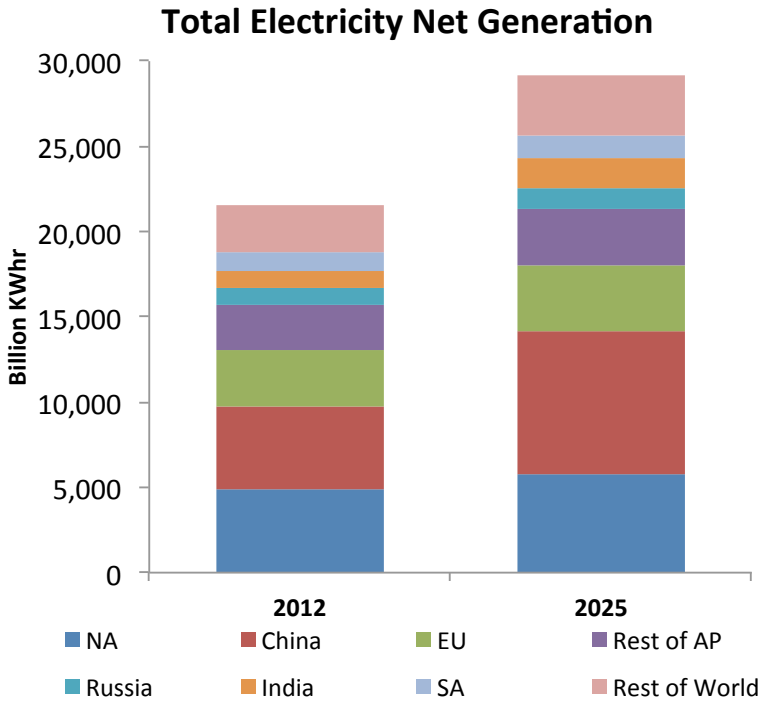
Maintenance Cost:
- $1.20/kW

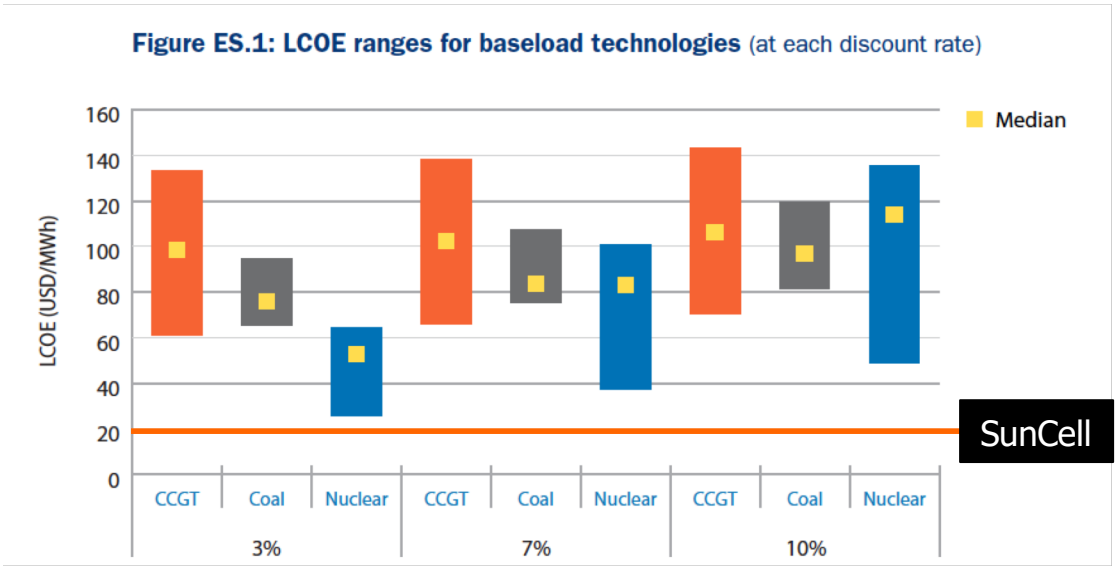
Generation Cost:
- $0.001/kWh

[a] http://www.nrel.gov/analysis/tech_lcoe_re_cost_est.html

Global Electricity

- $3.5 trillion~ global market at $0.12 per kWh at site
- $1.5 trillion addressable market for SunCell at breakthrough rate of ~$0.05 per kWh
- 28% demand increase by 2025

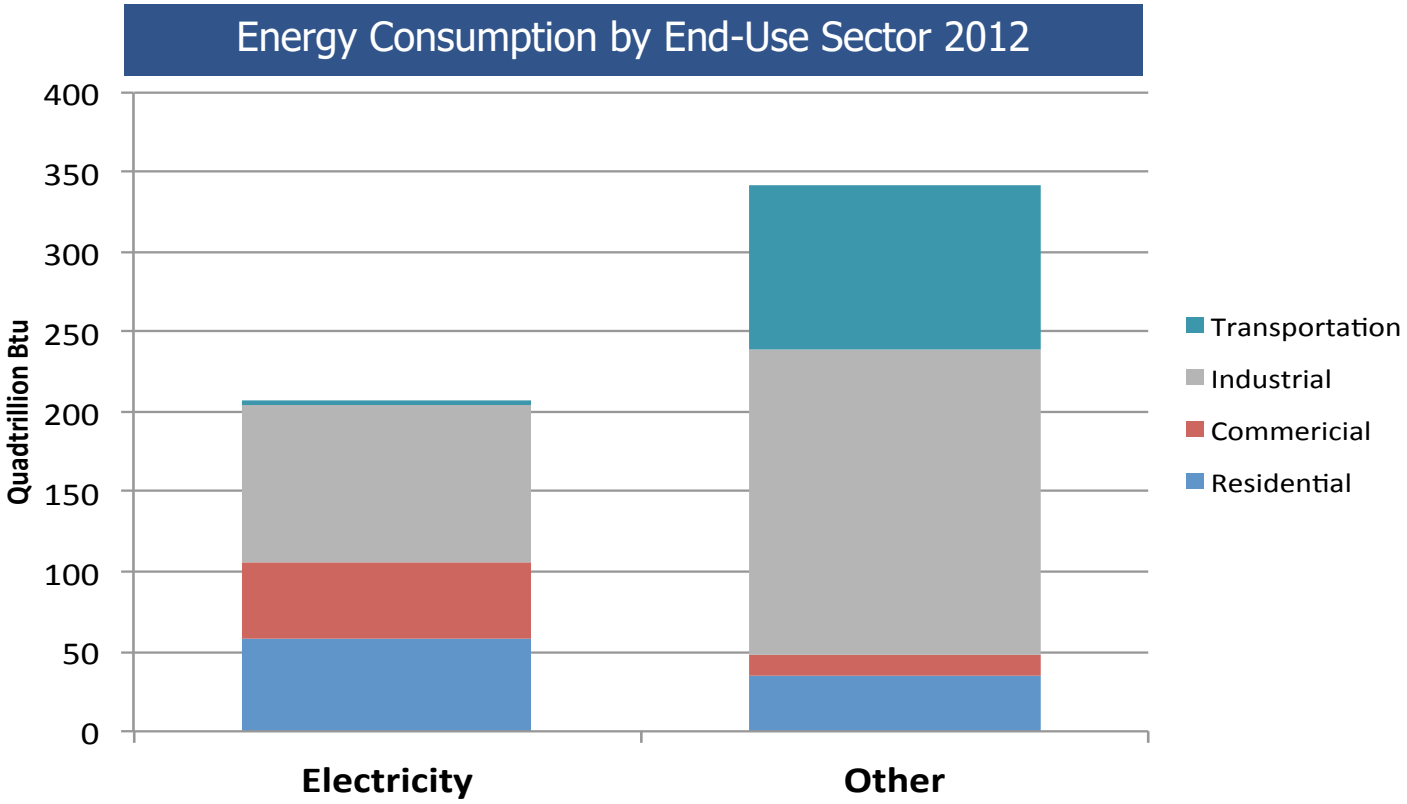




Sources: EIA Total Electricity Net Generation 2012,
IEA Projected Cost of Generating Electricity, 2015 Edition.

Global Electricity and Other Energy Sources

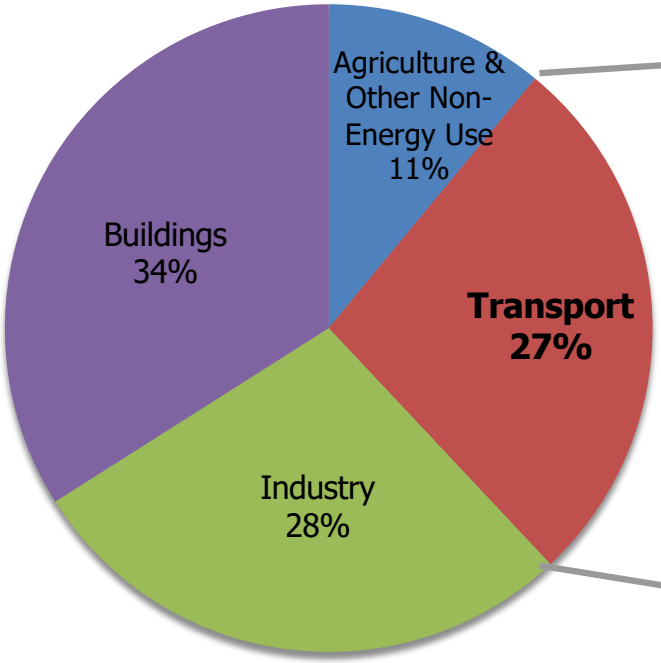
- Global electricity markets an obvious fit for SunCell – 42% value and 38% of total energy use
- SunCell applications in non-electric markets even bigger potential
- Energy use expected to expand with disruptive technology, as seen in telecommunications



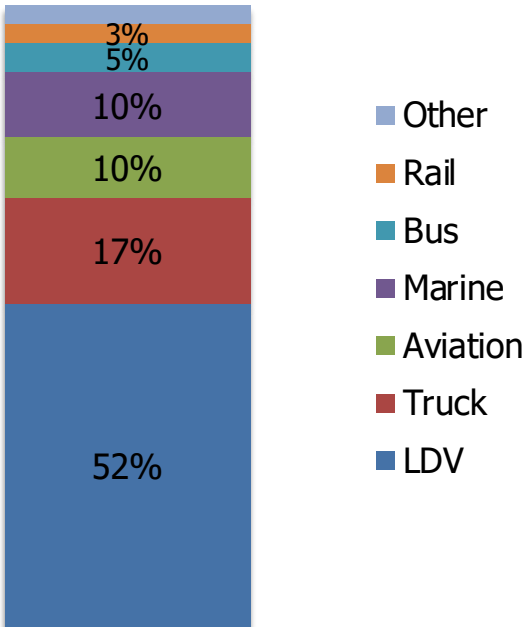
Ref: DOE/EIA International Energy Outlook 2016

Global Motive Energy Use

Global Energy Demand by Sector (2012)



Transport Energy Use by Type



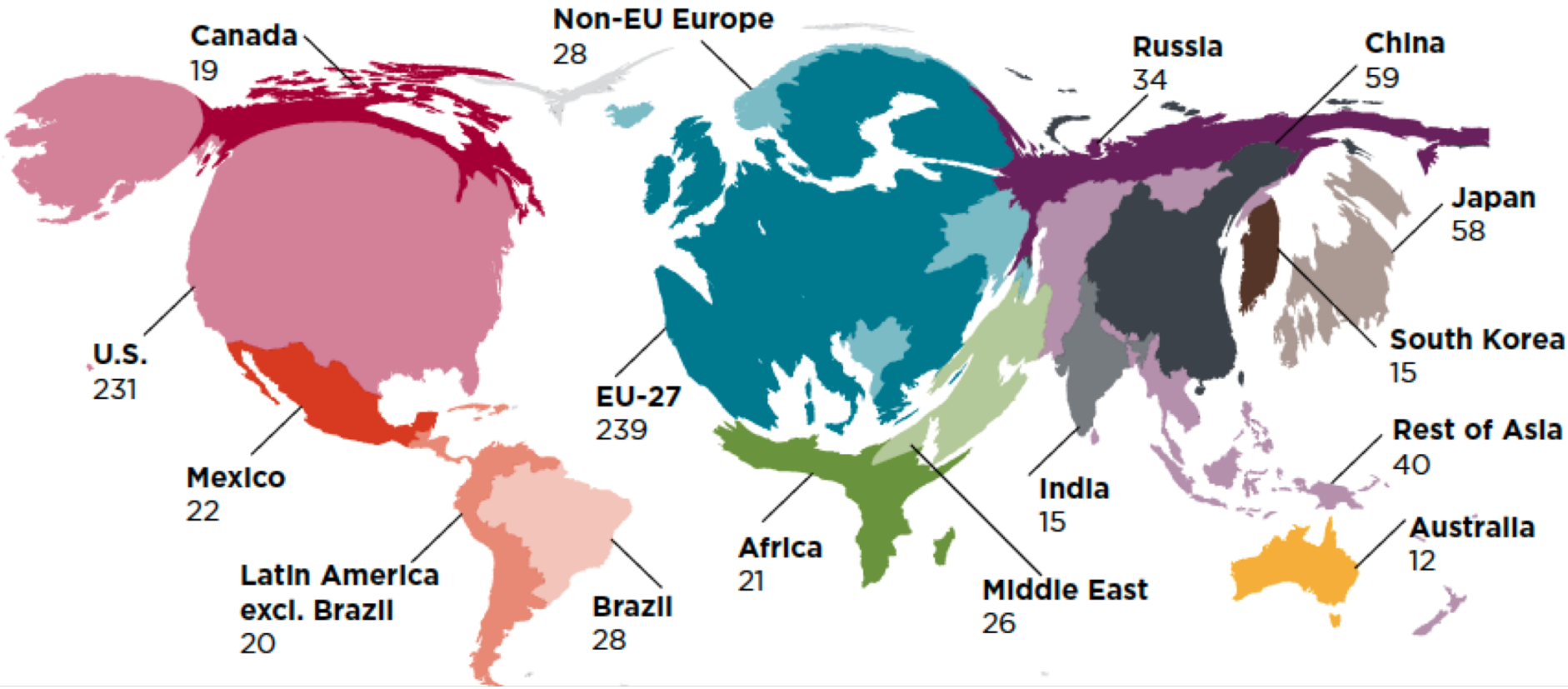
- Transportation consumes ~2,200 million tons of oil equivalent (Mtoe) of energy each year or 25,586 Terawatt hours.
- 700M+ Passenger Car population drives energy use, but hours of operation relatively low (~5% of time)

Light Duty Vehicles includes Passenger Cars and Light Duty Trucks <3.5T

Source: IEA, World Energy Outlook (2012), World Economic Forum, Repowering Transport April 2011
Ward's Automotive Group, Vehicles by Country 2011

Vehicle Population Provides Large Opportunity

Passenger Car Vehicle Stock 2013 (millions)

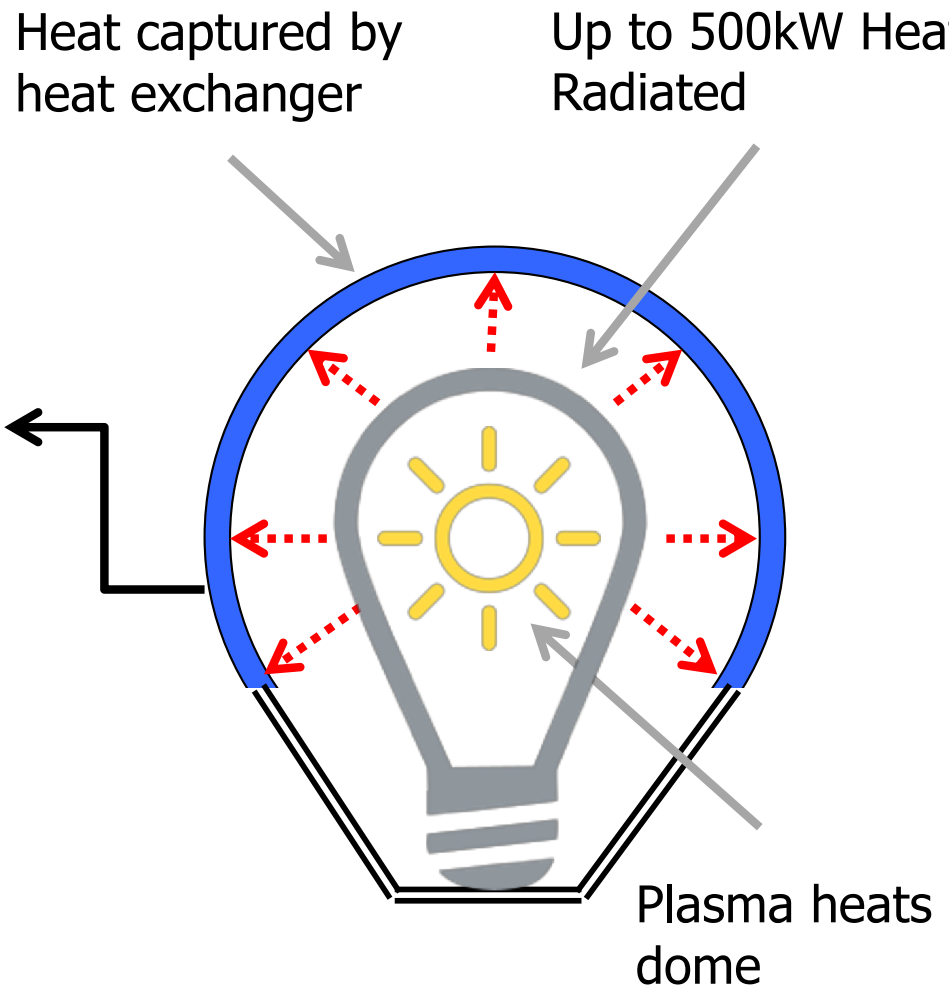


2015 Production: 68M Passenger Cars and 18M Light Duty Trucks

Source: European Vehicles Market Statistics, Pocketbook 2013
International Organization of Motor Vehicle Manufacturers 2016


Safe, economic, accessible, clean power……

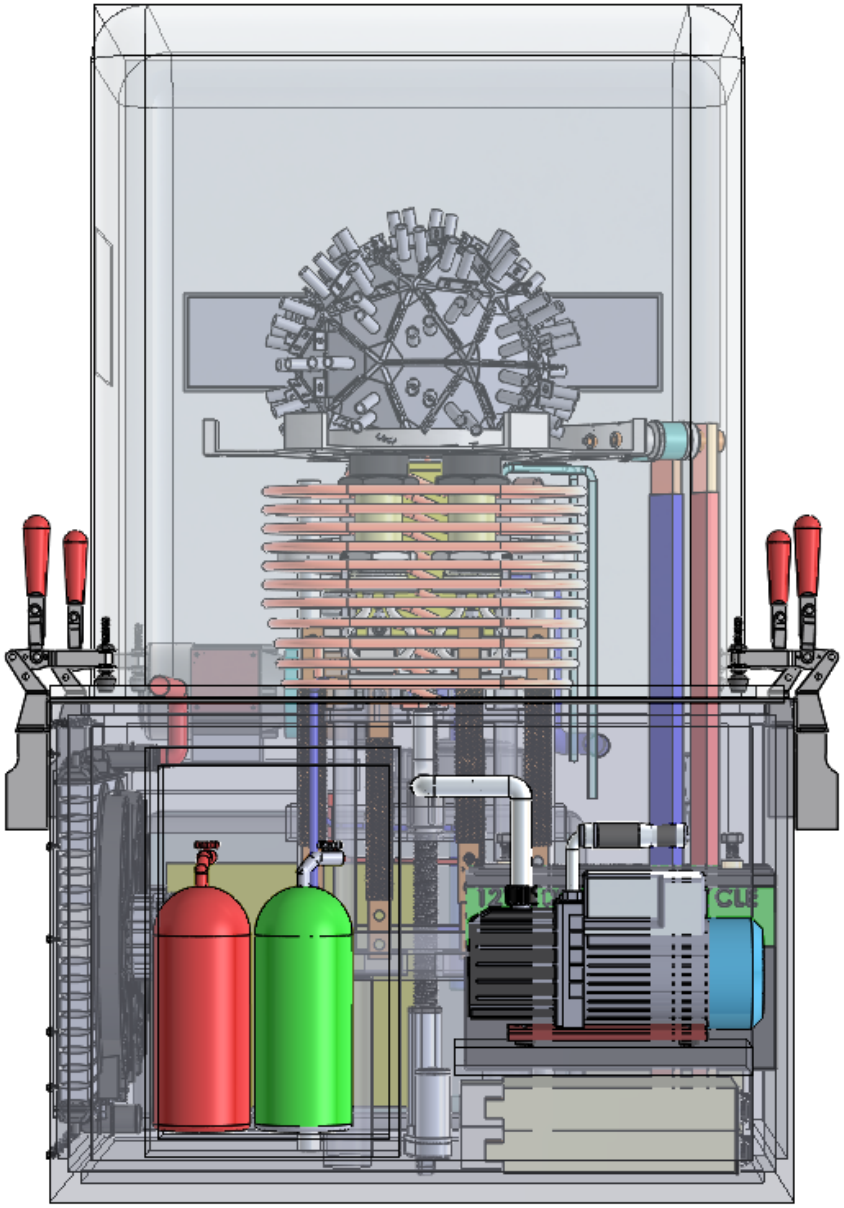
How the Thermal SunCell® Works



The Process....

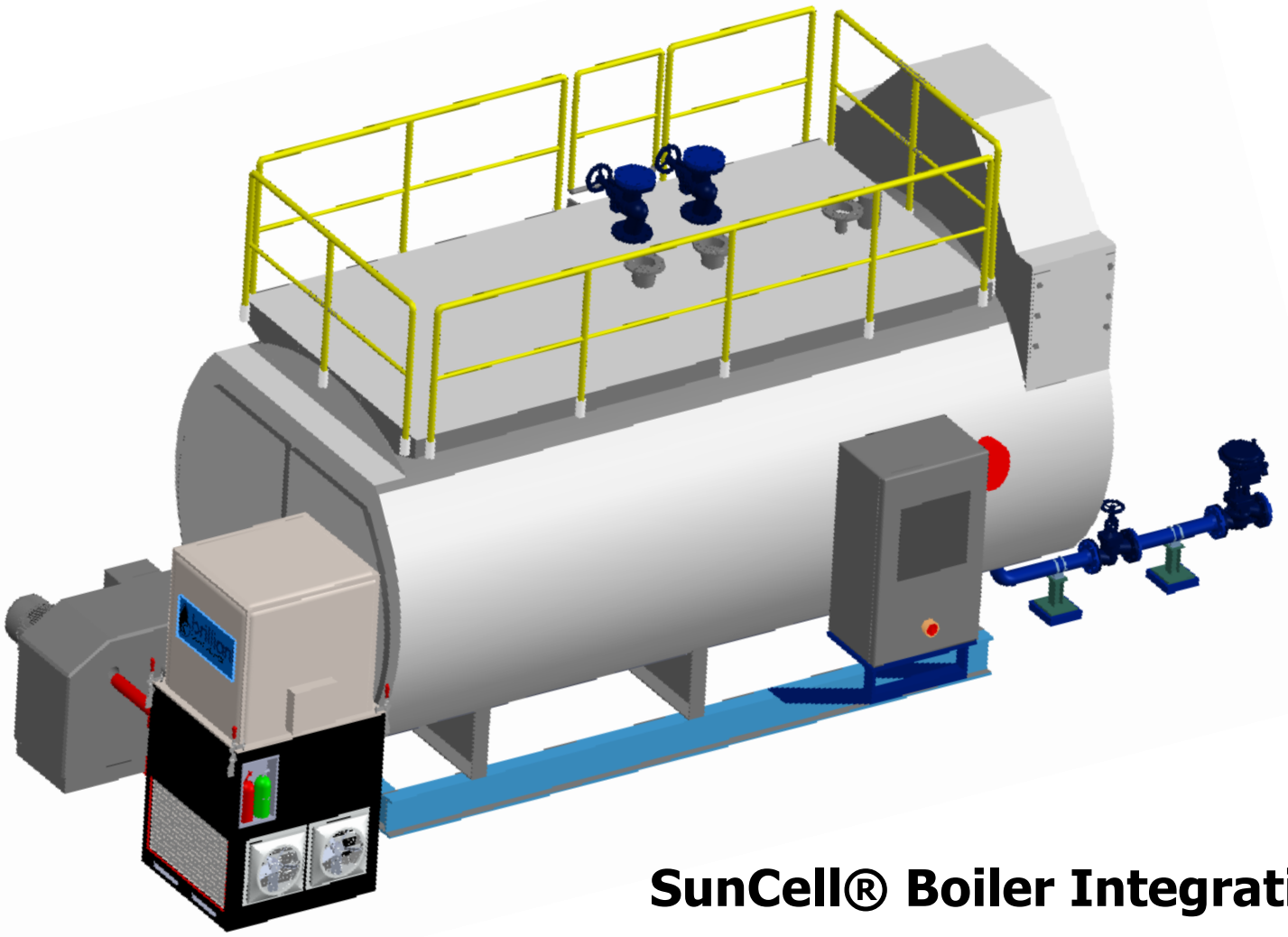
- Plasma is generated through Hydrino® process.
- Plasma heats the blackbody radiator to between 700 and 1700 Kelvin.
- Blackbody radiator emits up to MW's of heat
- Emitted heat is captured by a heat exchanger and heats water, air, or steam to drive a number of thermal applications

Thermal SunCell® specifications



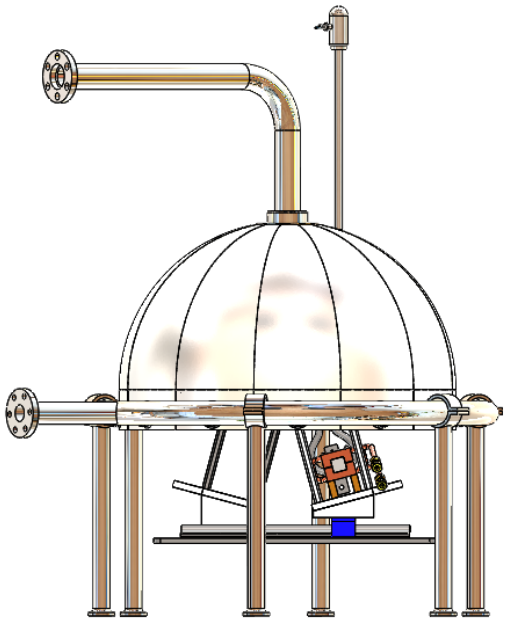
Feature	Est.
Power Output	Up to 500kW THERMAL
Conversion	Heat Exchanger
Thermal Transfer Media	Water, Steam, Air
SunCell dimensions (L,W, H)	0.5x0.5x0.5m
Heat Output	Up to 1700 Degrees K
Blackbody Radiator Power Density	500 kW/m2
Weight	100 kg
Warm-up Time	<1 min
Self-consumption power	<3 kW
Response Time (standby to peak)	~100ms
Service Life	15 years
Noise Emission	Sound Proofed
Degree of protection (per IEC 60529)	
Climatic category (per IEC 60721-3-4)	

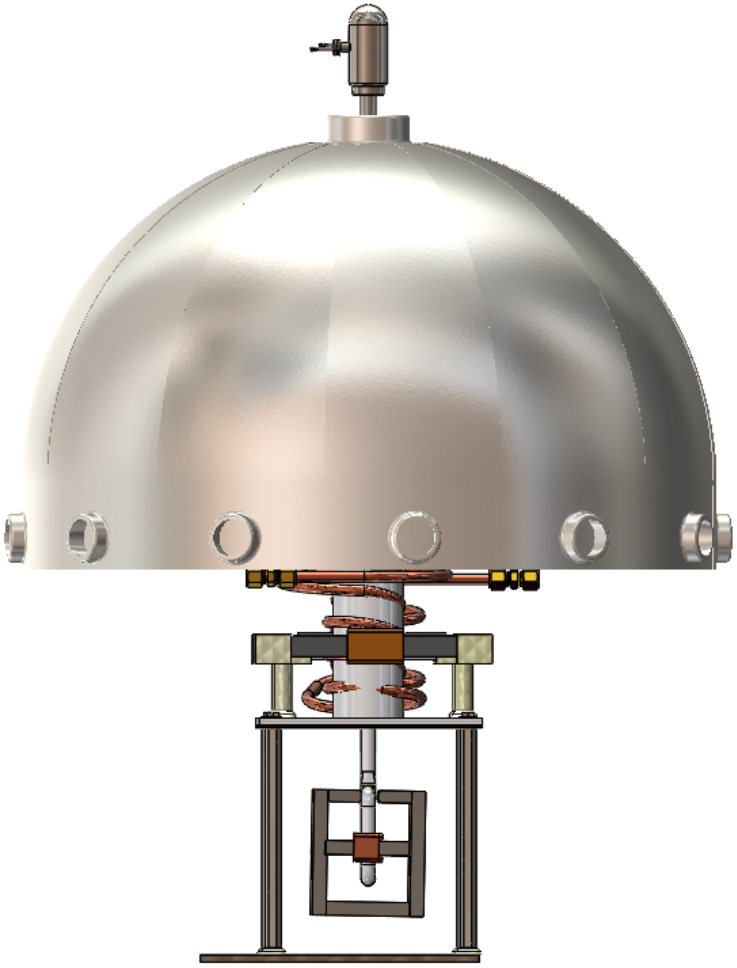
Thermal SunCell® application example

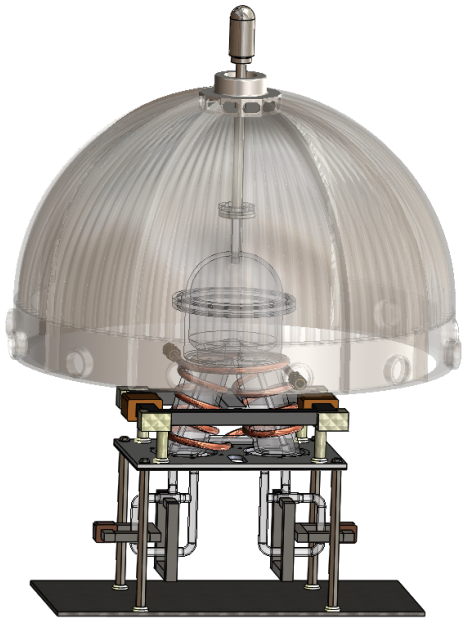


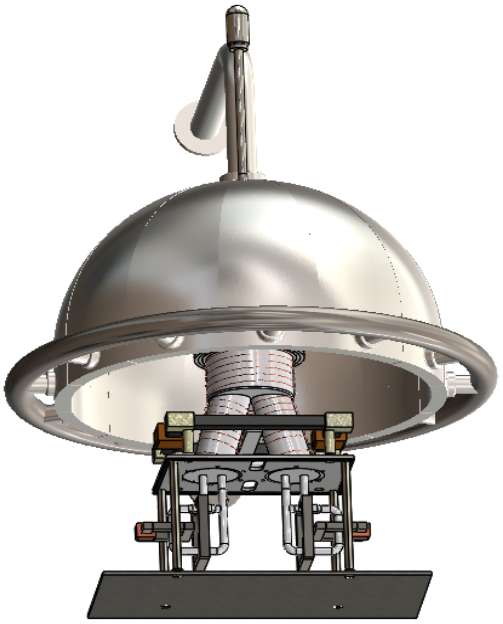
SunCell® Boiler Integration

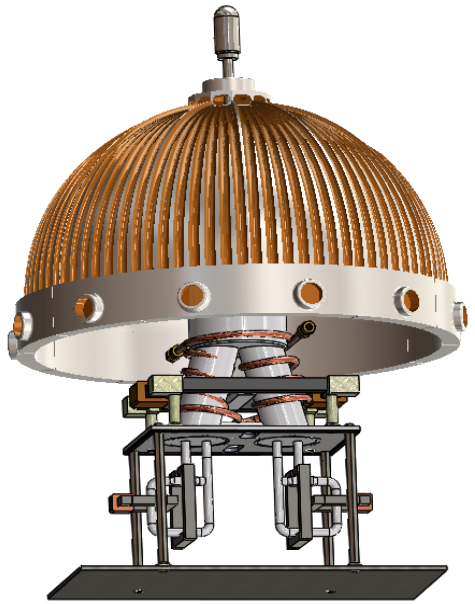
400 °C Heater



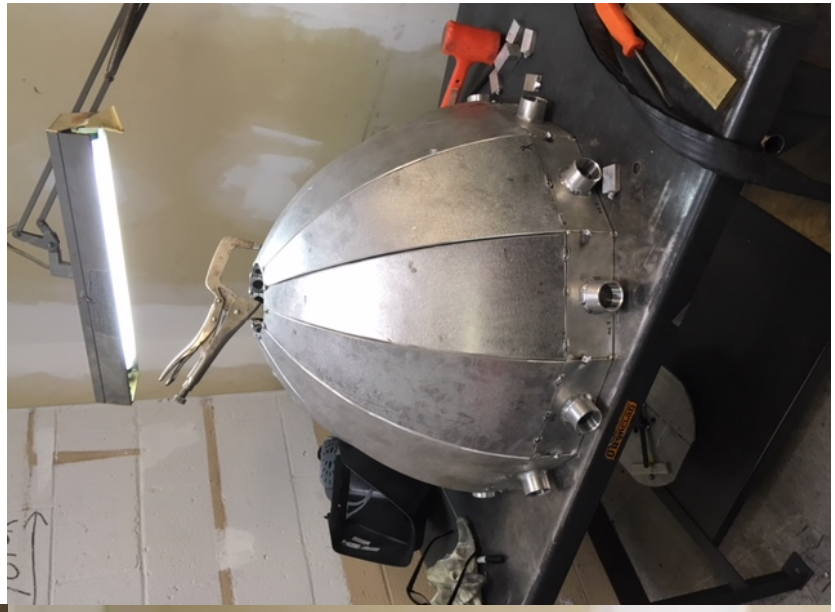


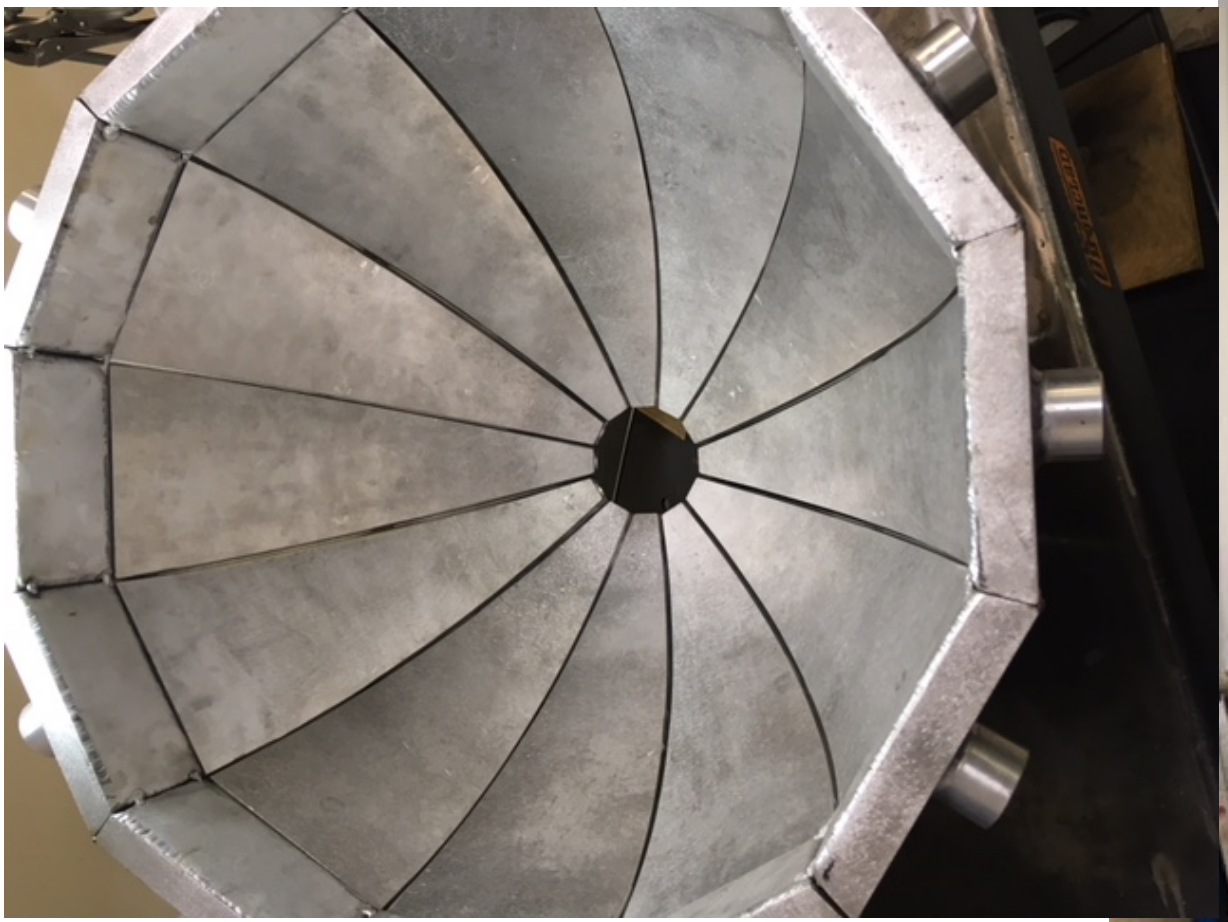




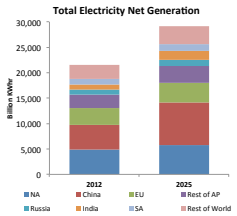


Heat Exchanger

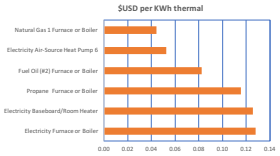




Why Heat?



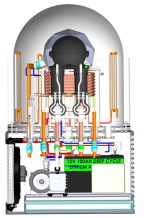
$4 Trillion USD Heat market
vs. $3.5 Trillion USD Electric



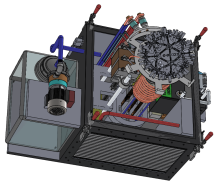
Bigger Market

150kW Electric
SunCell® = 500kW Heat

3x Efficient



SunCell® manufacturing cost without PV est. $10,000



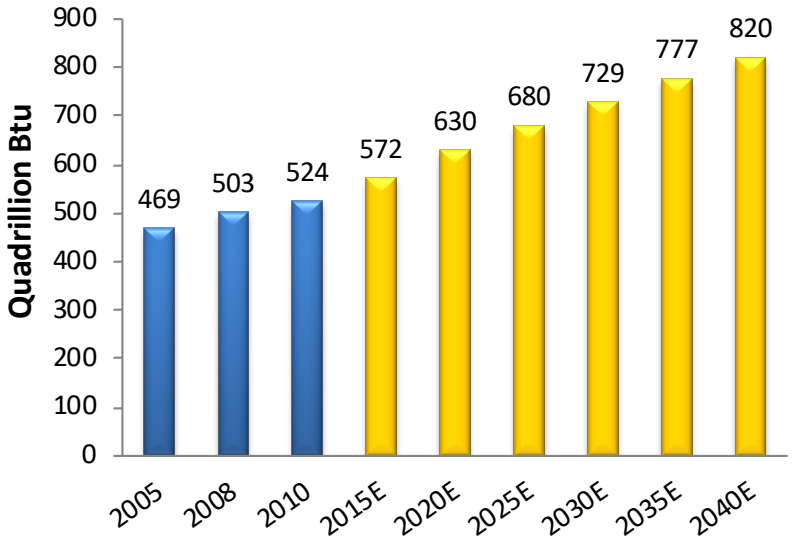
2.5 x Less Cost

Reduced time-to-market generating the same revenues from per diem leases per SunCell® a higher margin than electric applications…

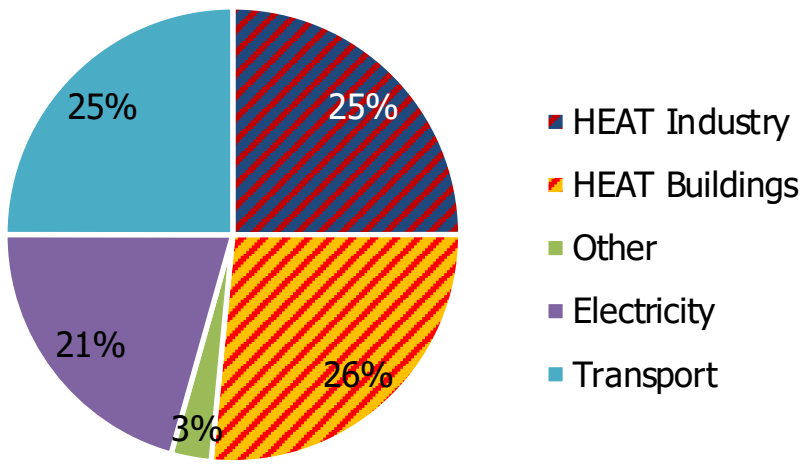
Global "Heat" Market

- $8 trillion~ expended on total fossil fuels globally in 2013
- 1/2+ of final energy consumption for Heat applications in Industry and Buildings
- 3/4 Heat from fossil fuels, with coal and NG over 50%
- 1/3 of worldwide CO2 emissions from Heat sources
- Modest average annual growth of 2.6% from 2008-2012

Global Energy Consumption



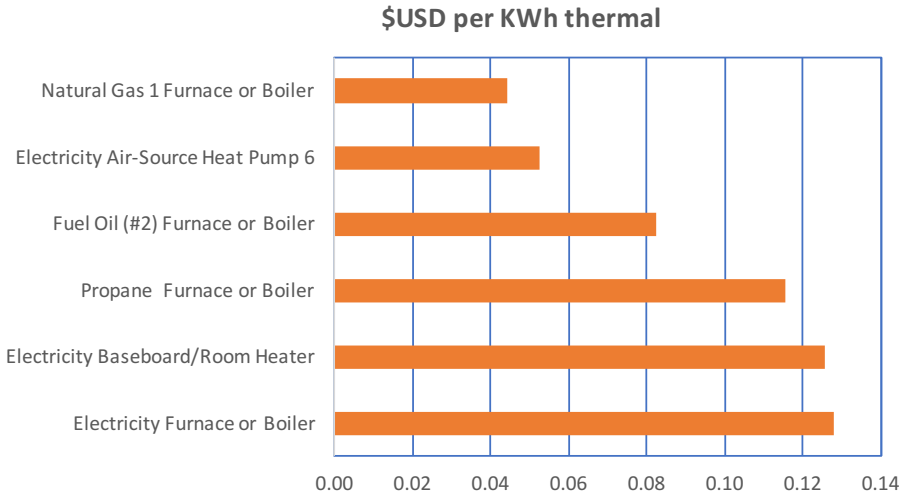
Final Energy Use



Sources: EIA IEO 2013, International Energy Agency and management estimates, Heating Without Global Warming – International Energy Agency 2014
172 EJ for Heat = 163 Quadrillion Btu
Carbon emissions from burning biomass for energy, Partnership for Policy Integrity

Heat Costs & Equipment Vary Widely

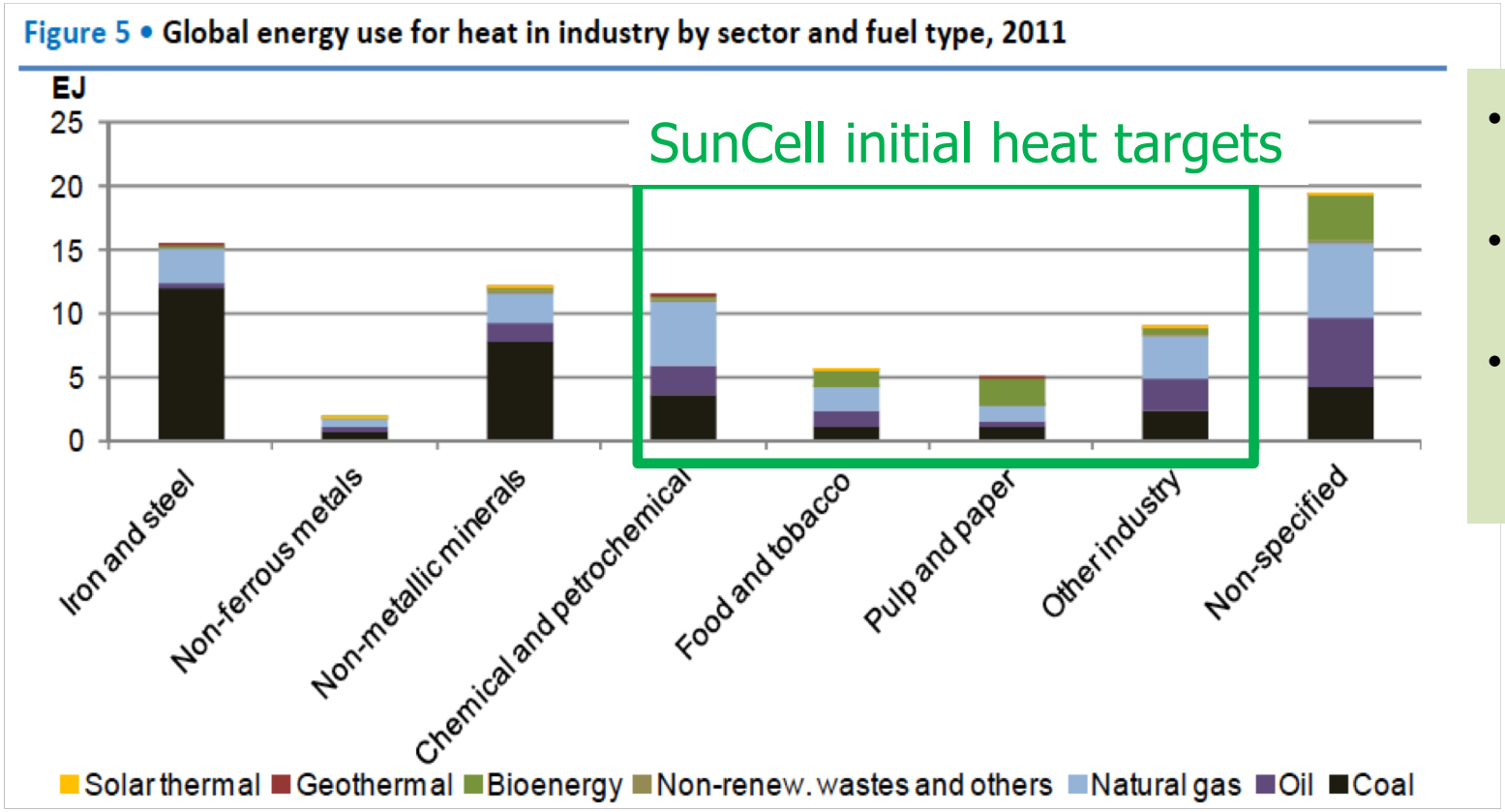
- Existing heat fuel sources are diverse
- Equipment offerings range from primitive to massively complex:
  - Biomass stoves & furnaces
  - Natural gas furnaces
  - Electrical heat pumps
  - Low-grade solar heat for air and water
  - Landfill gas for boilers,
  - Resistive electrical heaters
  - Direct geothermal
  - Co-gen power plant district heat
- US residential heating example
  - Costs vary almost 3X depending on the fuel and equipment combination
  - Small unit power for a SunCell®, but consider Buildings and Industry



- Target high fuel cost segments & customers that match SunCell thermal output (200KW to 1MW)
- Target high-value industrial partners for applying SunCell to "standardized" segments

Sources: modeled cost using Heating Cost Calculator Auburn University
https://ag.purdue.edu/extension/renewable-energy/Documents/ON.../heatcalc.xls

Industrial Heat Market Segments



- Total 79 exajoules (EJ)
- SunCell targets 27 EJ or 34%
- **$225B target market @ $0.03 / Kwh**

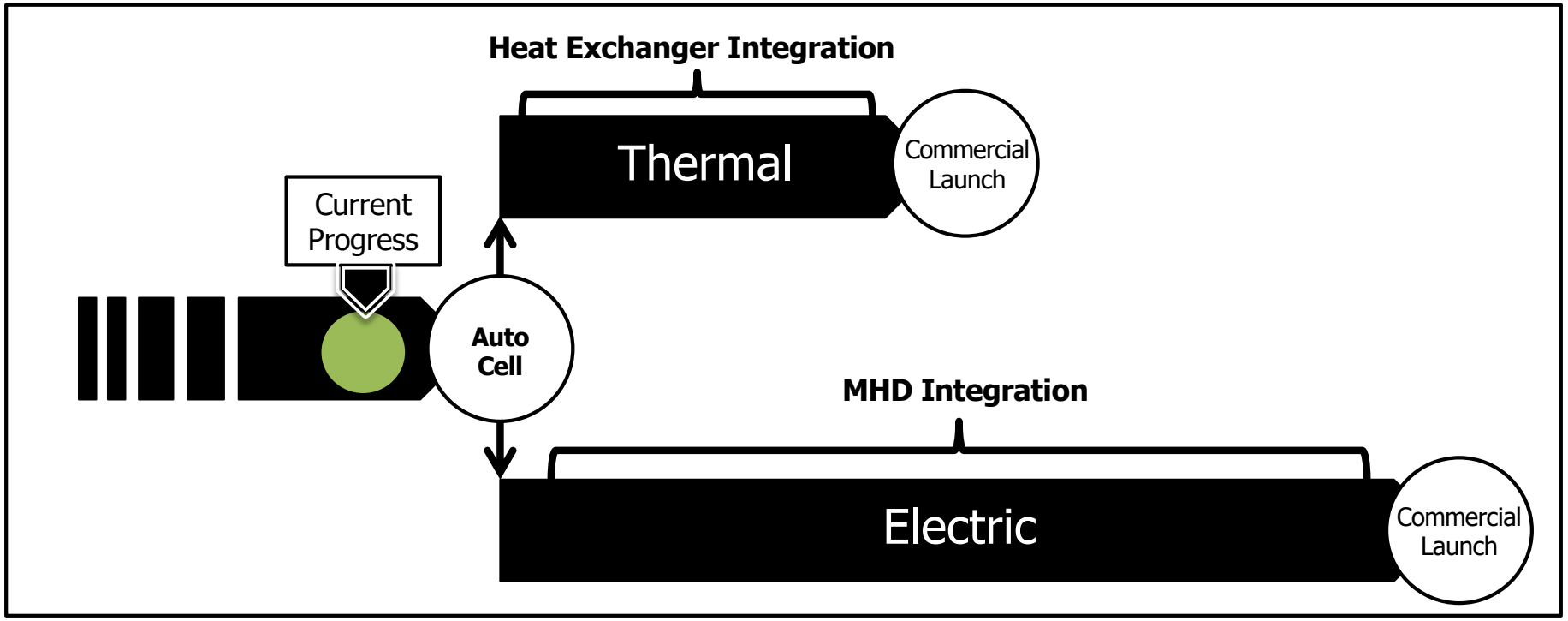
- More Attractive:
  - General heating systems for boilers & process, chemical, food, and paper industries.
  - Simpler systems
  - Range of systems partners
- Less Attractive:
  - Iron & Steel foundries have unique requirements and long development cycles
  - Non-metallic minerals products are very diverse; cement, bricks, tiles, sanitary ware, glass, tableware, and decorative goods.

Sources: EIA IEO 2013, International Energy Agency and management estimates, Heating Without Global Warming – International Energy Agency 2014
1 Ej = 2.78E+11 Kwh or 174M barrels of oil

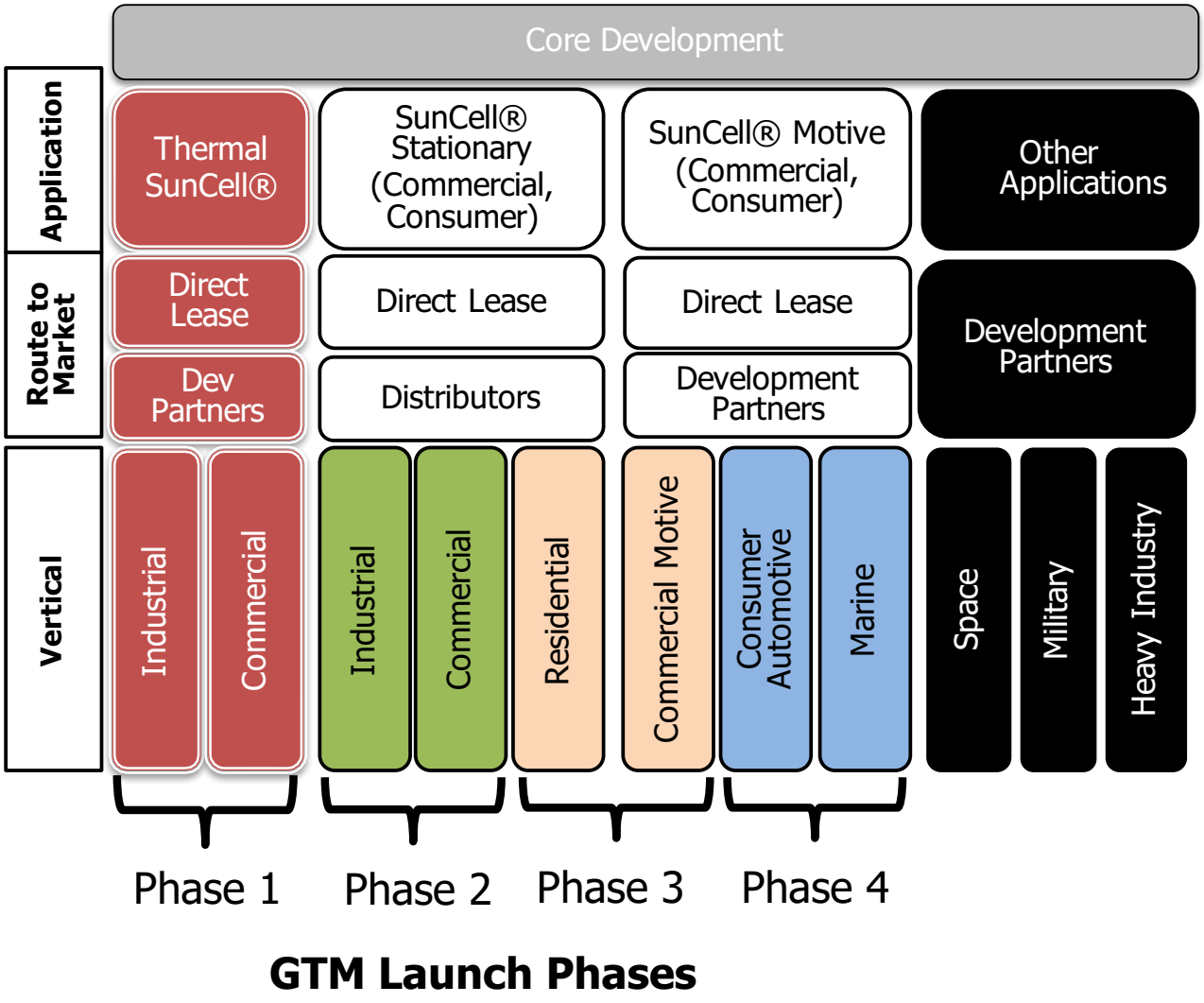
SunCell® development program

The SunCell® development program is broken into commercial pathways following the "Automated Cell" engineering milestone:

- **Thermal** – The integration of the SunCell® with heat exchanger technology to create a commercial heater capable of delivering 500kW for boiler, hot air, or hot water thermal systems
- **Electric** – The integration of the SunCell® MHD technology to create an electrical generator delivering 150kW of DC power



Brilliant Light Power Go-To-Market Model



GTM Launch Phases

Phase 1 – Thermal Unit- Launch to Industrial, Commercial and Multi-tenant residential markets

Phase 2 – 150kW Unit - Launch to Industrial, Commercial and Multi-tenant residential markets

Phase 3 – launch to Residential through Direct Lease and Commercial Automotive with Development Partner

Phase 4 – Improved/Modified Units – launch to Consumer Automotive and Marine through Direct Lease and Development Partner models

***Development Partners –** Engaged at any phase under Development Partner agreement*

Partner relationships

Strategic Partners

- A partner that is an early adopter of SunCell® technology.
- The Strategic Partner works with BrLP throughout the field trial and production proof of concept phase of the Commercial Launch of a the SunCell®.
- Are offered strategic investment opportunity in BrLP and receive discounted power for their own commercial use.

Distributor

- A partner that has the capability to distribute and maintain the SunCell technology in a given territory or field of use.
- A reputable firm with the necessary connections to overcome certification and regulatory challenges within their territory or field of use.
- BrLP will grant a license as per Distributor pricing terms & conditions

Development Partners

- A commercial interest in the core development of the Hydrino® derived energy source and its derivatives
- Has the engineering and production capability to be able to produce products other than SunCells®.
- License the intellectual know-how of generating Hydrino® based energy to solve for heat, light or electrical power requirements in their own applications.

Validation

- Journal Publications
- Theory
- Optical Power
- Thermal Power
- Shock wave

Over 100 peer reviewed publications.

$$m_0c^2 = \hbar\omega^* = \frac{\hbar^2}{m_0\lambda\!\!\!^{-2}_C} = \alpha^{-1}\frac{e^2}{4\pi\varepsilon_0\lambda\!\!\!^{-}_C} = \alpha^{-1}\frac{\pi\mu_0 e^2\hbar^2}{(2\pi m_0)^2\lambda\!\!\!^{-3}_C} = \alpha^{-1}\frac{\mu_0 e^2c^2}{2h}\sqrt{\frac{Gm_0}{\lambda\!\!\!^{-}_C}}\sqrt{\frac{\hbar c}{G}} = \frac{\alpha h}{1\ \mathrm{sec}}\sqrt{\frac{\lambda\!\!\!^{-}_C c^2}{2Gm_0}}$$

Theory validation by two physics professors.

Theory solves the universe from the scale of subatomic particles to the cosmological scale, successful over 85 orders of magnitude of scale.

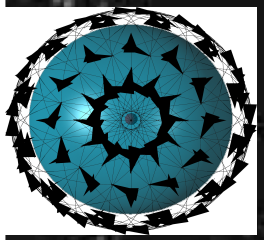
Solved molecular hydrogen and hydrino dimer parameters.

Solved molecular hydrogen and hydrino van der Waals bonding.

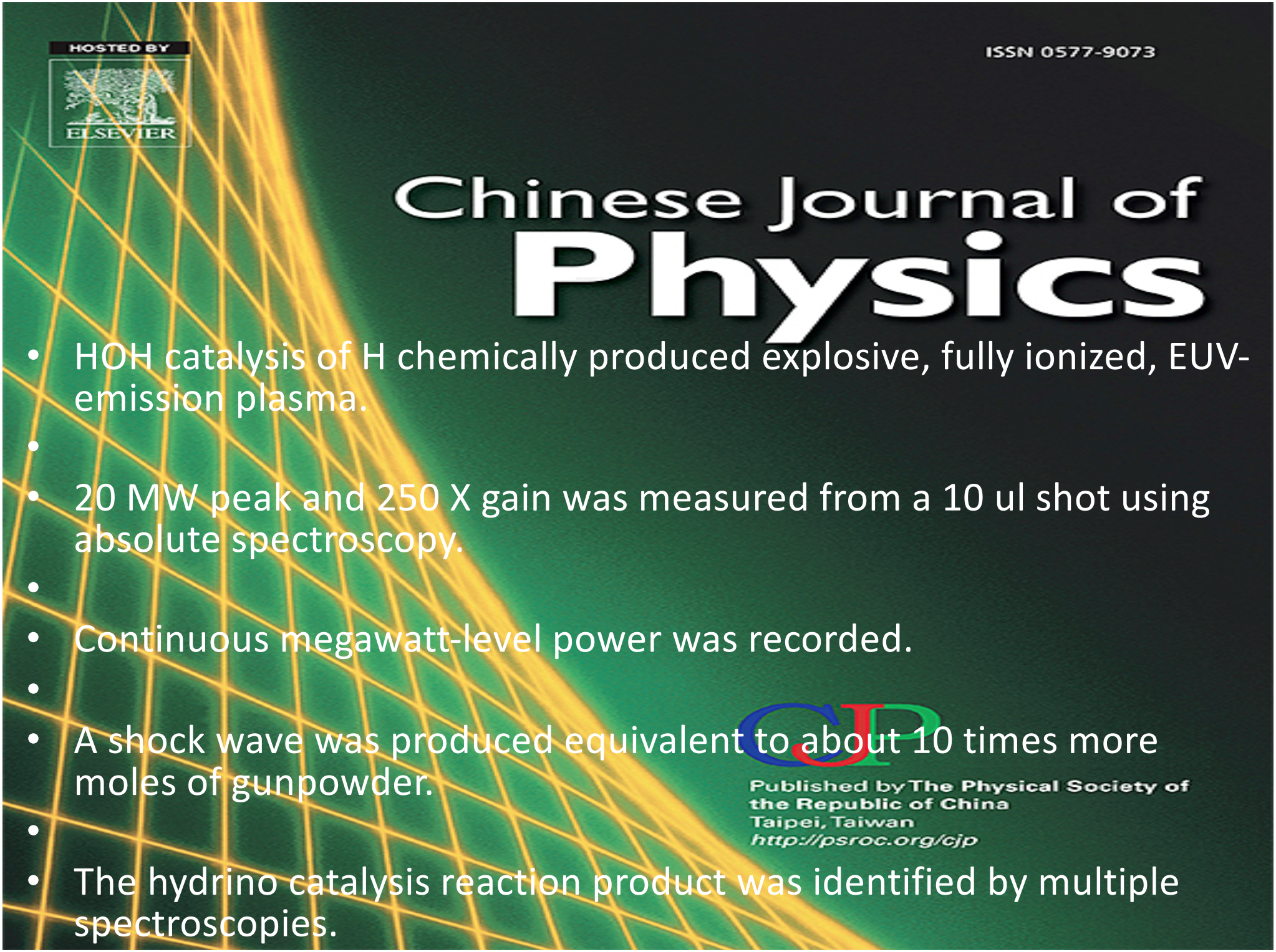
Solved magnetism of hydrino products and magnetic aggregation bonding.

Solved molecular hydrino dimer EPR spectrum.

Solved molecular hydrogen and hydrino quadrupole moments.



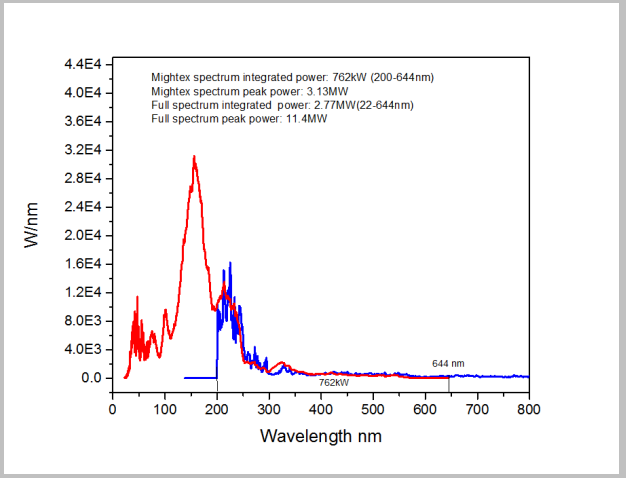
Theory Validations

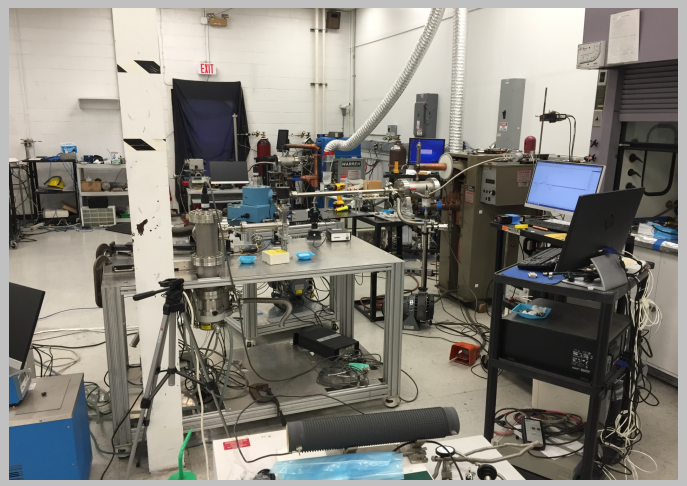


- HOH catalysis of H chemically produced explosive, fully ionized, EUV-emission plasma.
-
- 20 MW peak and 250 X gain was measured from a 10 ul shot using absolute spectroscopy.
-
- Continuous megawatt-level power was recorded.
-
- A shock wave was produced equivalent to about 10 times more moles of gunpowder.
-
- The hydrino catalysis reaction product was identified by multiple spectroscopies.

Validation of Hydrino Reaction's Extraordinary High-Energy Continuum Light and Optical Power at over 1,000,000W Levels

Using three spectrometers power calibrated by NIST calibration light sources, the optical powers and spectra over the 20 nm to 800 nm region were absolutely determined on hydrated silver shots caused to detonate with a low-voltage, high current pulses. Continuum high-energy, extreme ultraviolet (EUV), radiation at megawatt average and 10-megawatt peak power levels were observed. The EUV spectrum matched theoretical predictions for the electronic transition of a hydrogen atom to the hydrino atomic state with a quantum number of ¼ catalyzed by nascent HOH. The input energy was determined by eliminating the detonation-produced electromagnetic pulse with a shunt resistor. (Recent synchronous calorimetric and wall power measurements validated this approach link). There is no other explanation for the observed optical energy output of about 30 times the input wherein (i) no energy releasing conventional chemical reaction was possible, (ii) the radiation was predominantly 100 times more energetic than possible under the applied low-voltage condition, and (iii) the radiation comprised unprecedented megawatt-level continuum light with most of the radiation in the short wavelengths.





Validation of Hydrino Reaction Power at over 100,000W Levels

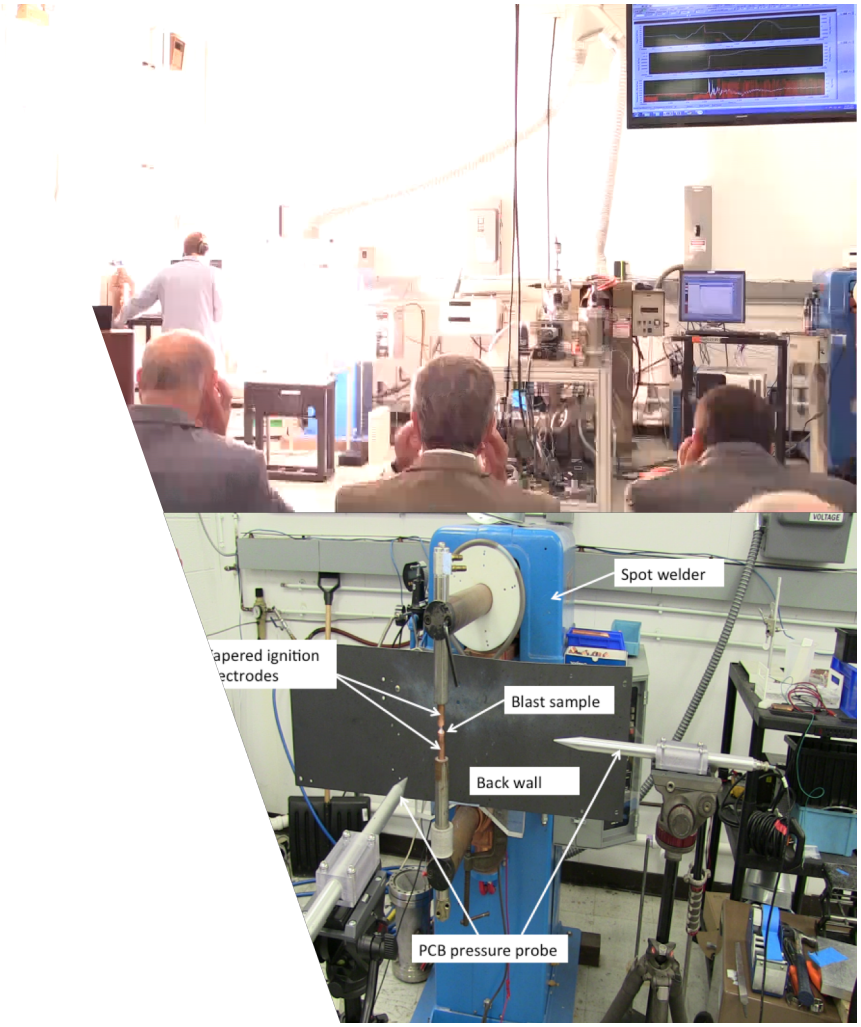
Using a commercial Parr water bath calorimetry on silver shot detonations, the detonation-produced electromagnetic pulse that interfered with ignition input power determination was eliminated to give results that are substantially unchallengeable.

Test	$t_f - t_{det}$ [ms]	$E_{out} - E_{Weld,Total}$ [J]	$(E_{out} - E_{Weld,Total})/(t_f - t_{det})$ [kW]
022719(1)	1.19	474.9	399
022719(2)	0.92	256.8	279
022819(1)	1.75	372.8	213

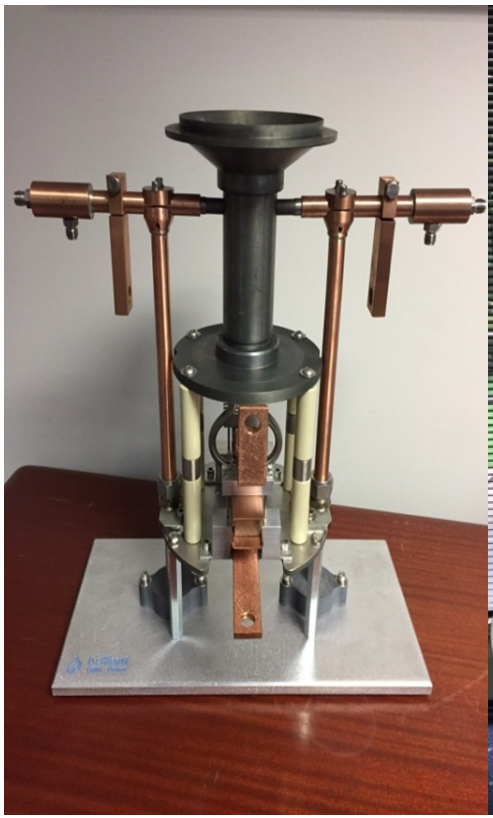
Energetic Materials Validation

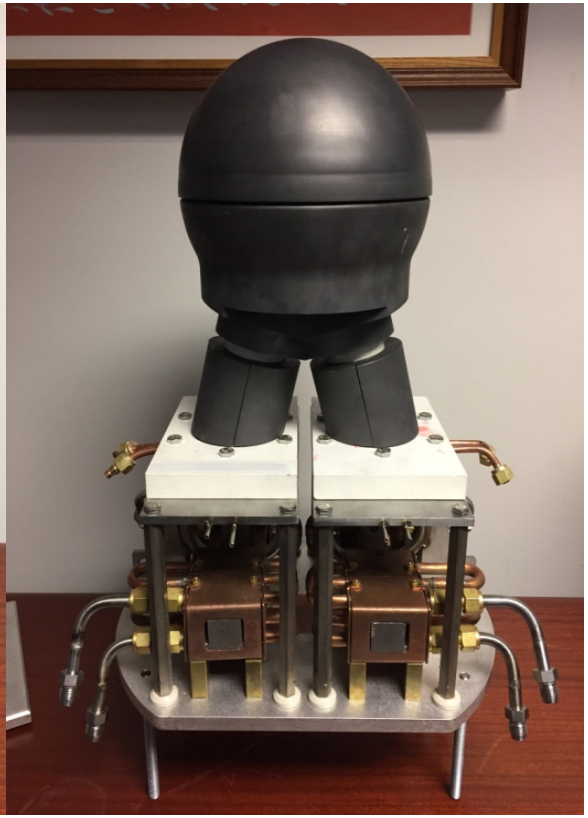
Dr. Joseph Renick, former Chief Scientist at Applied Research Associates analyzed the characteristics of Brilliant Light Power's energetic hydrino reaction. Based on the shockwave propagation velocity and the corresponding over pressure, the high-current ignition of water in a silver matrix was measured to produce a shock wave that was 10 times greater than an equivalent weight of TNT.

Department of Defense opportunities exist.

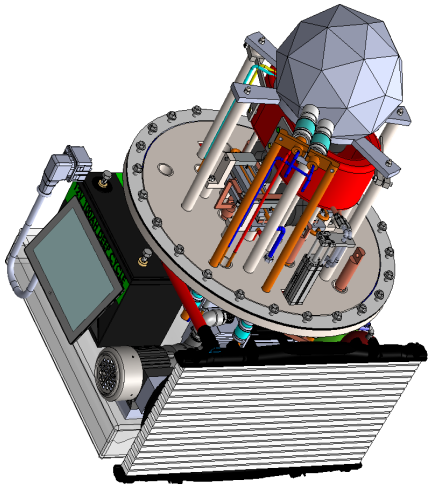


SunCell Engineering Evolution

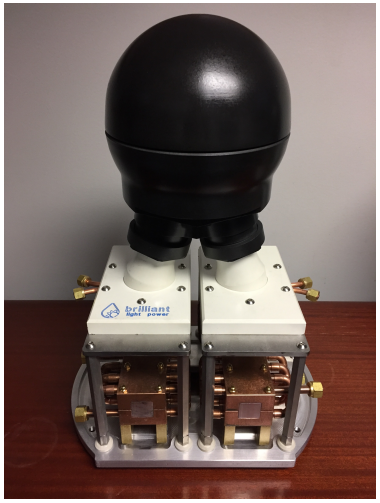




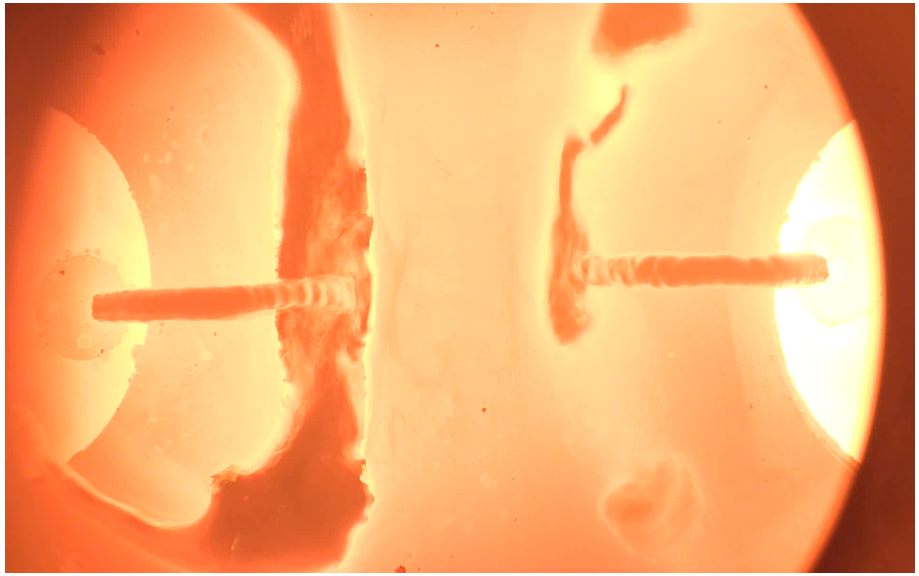
2018 Evolution Built on 2016 and 2017 Developments



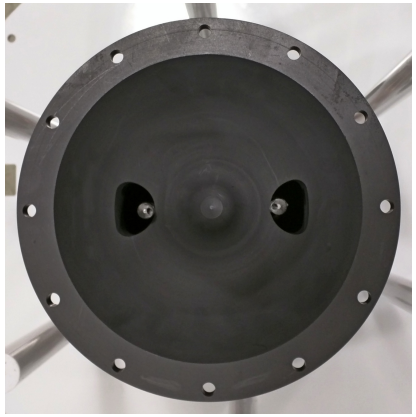
Blackbody Radiator with PV Converter



Carbon-Domed SunCell® for PV Conversion

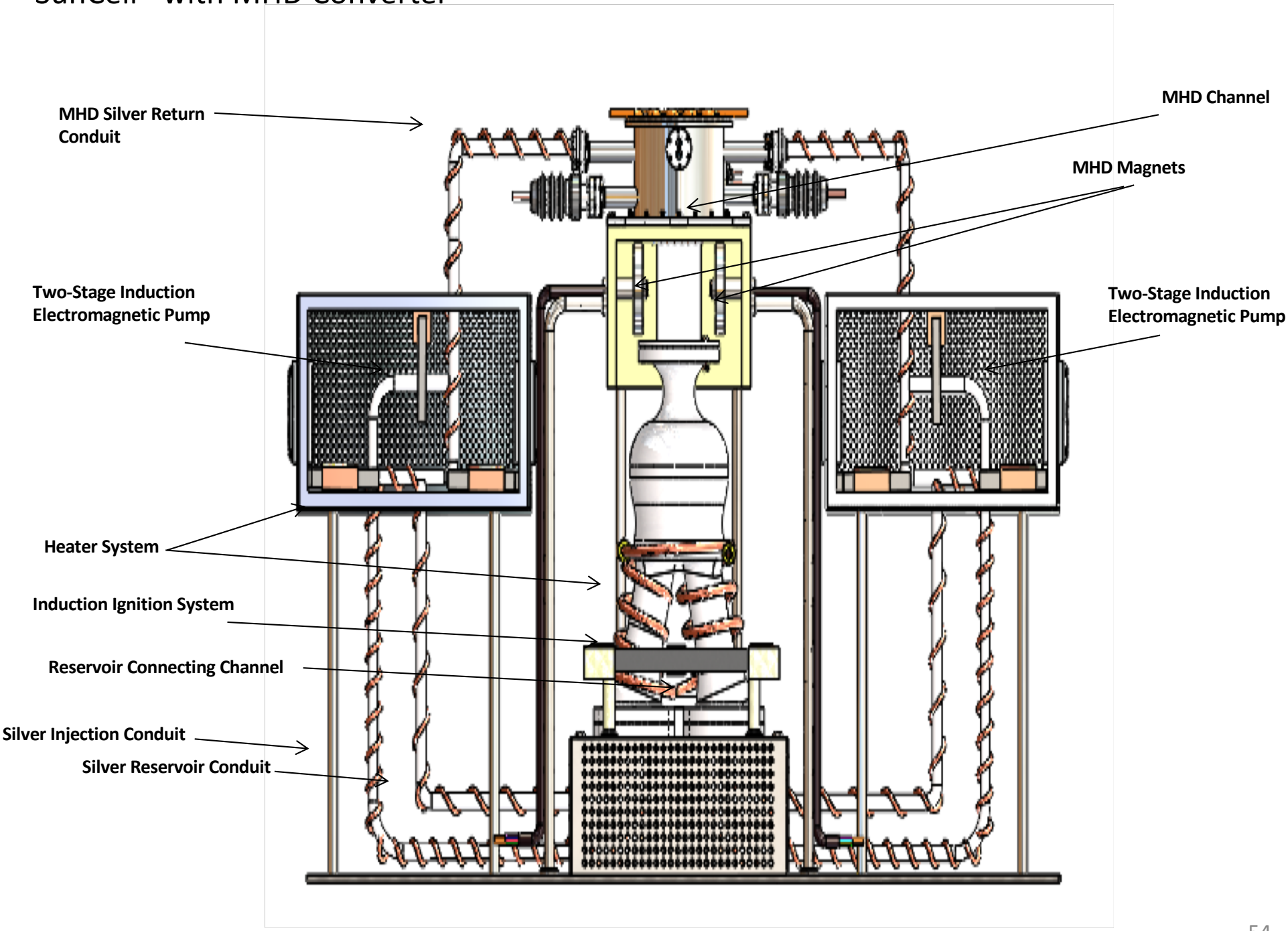


SunCell® in operation 2016 (video)

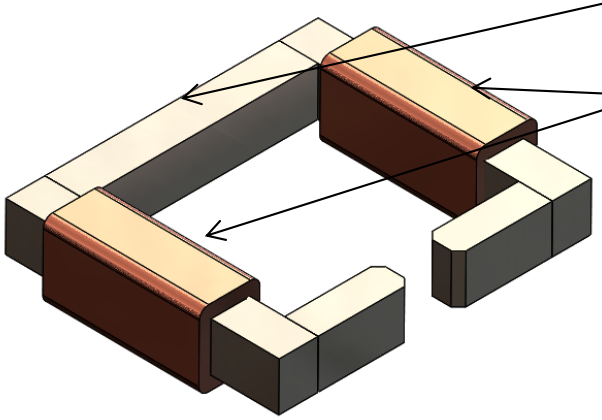


Key invention – Liquid electrode injectors

SunCell® with MHD Converter



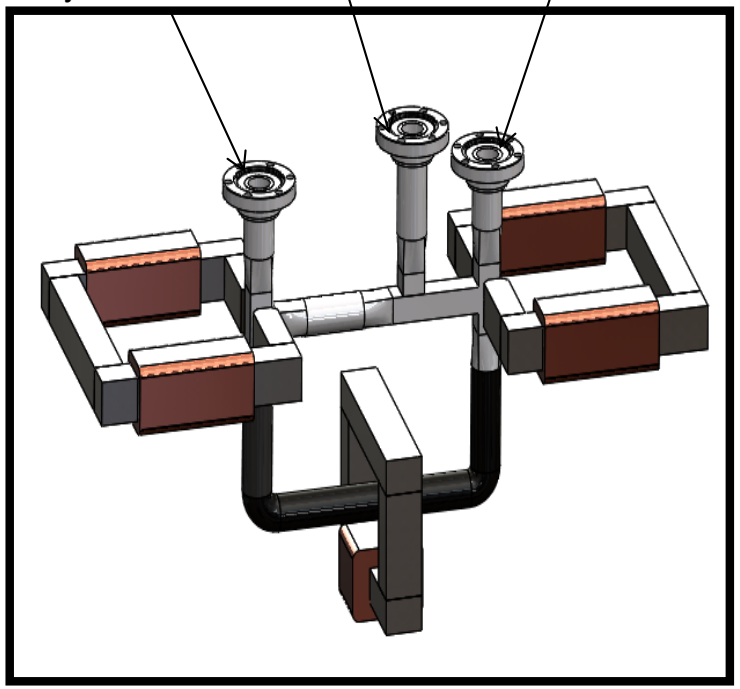
Two-Stage EM Pump



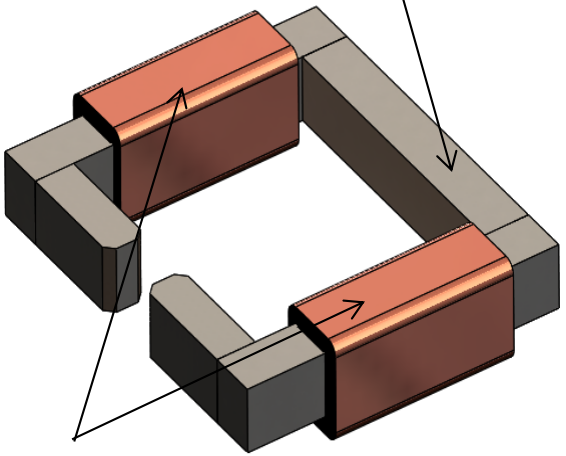
2nd Stage EM Pump Electromagnet Yoke

2nd Stage EM Pump Electromagnet

2nd Stage EM Pump Electromagnetic Assembly



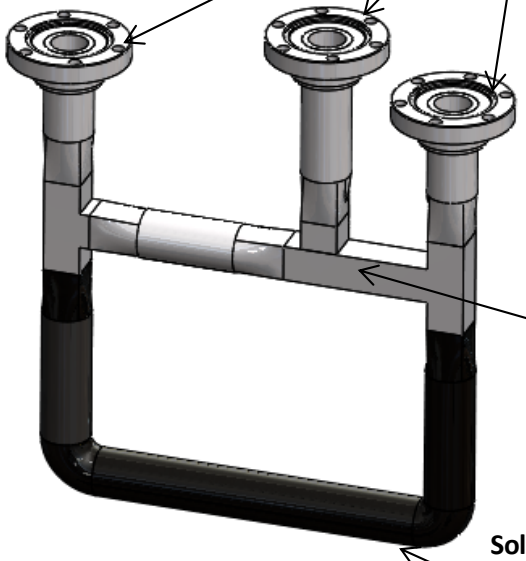
Two-Stage Induction Electromagnetic Pump



1st Stage EM Pump Electromagnet Yoke

1st Stage EM Pump Electromagnet

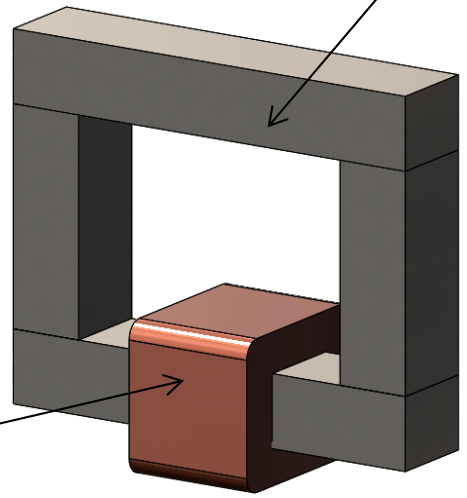
1st Stage EM Pump Electromagnetic Assembly



Flange Seal

Electromagnetic Pump Tube Section of Current Loop

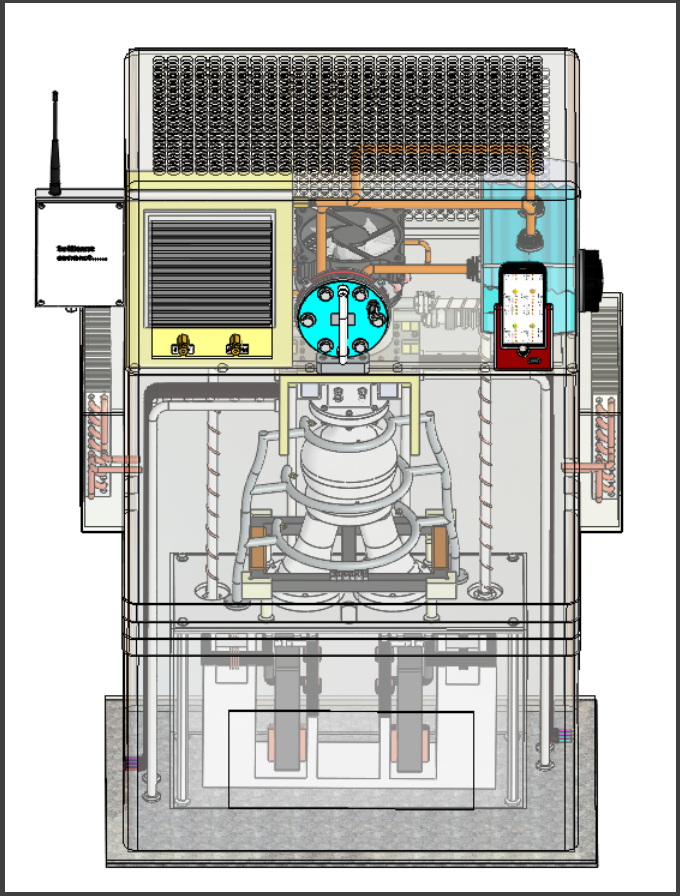
Solid Conductor-Filled Tube Section of Current Loop

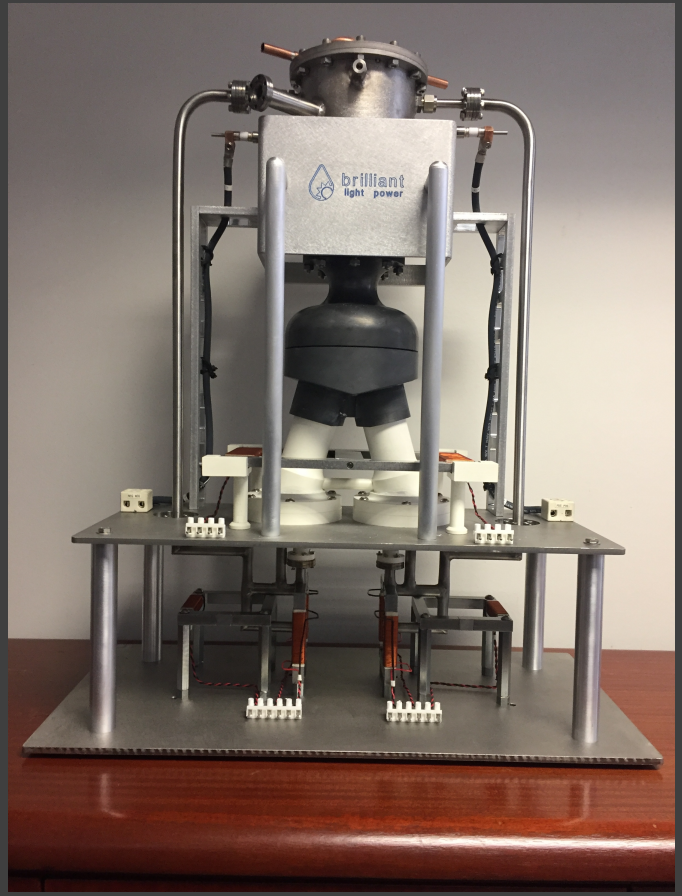


Electromagnetic Pump Transformer Core

Electromagnetic Pump Transformer Winding

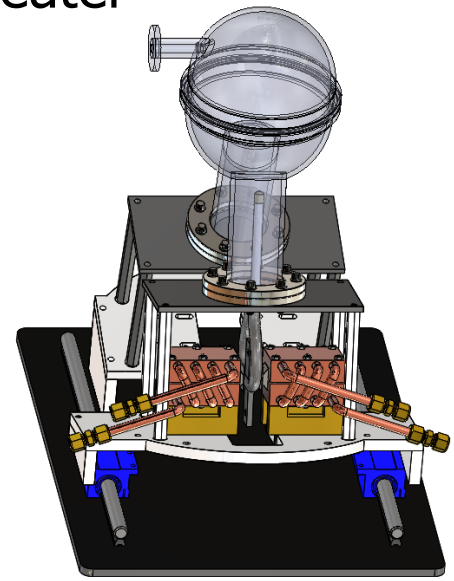
Electromagnetic Pump Transformer Winding Assembly

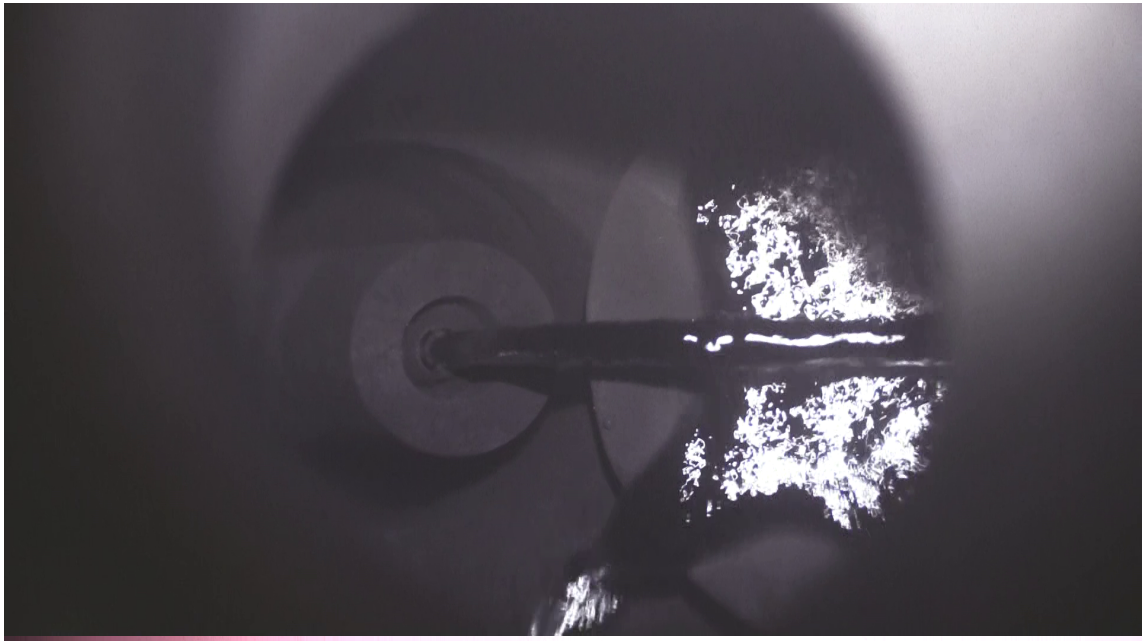


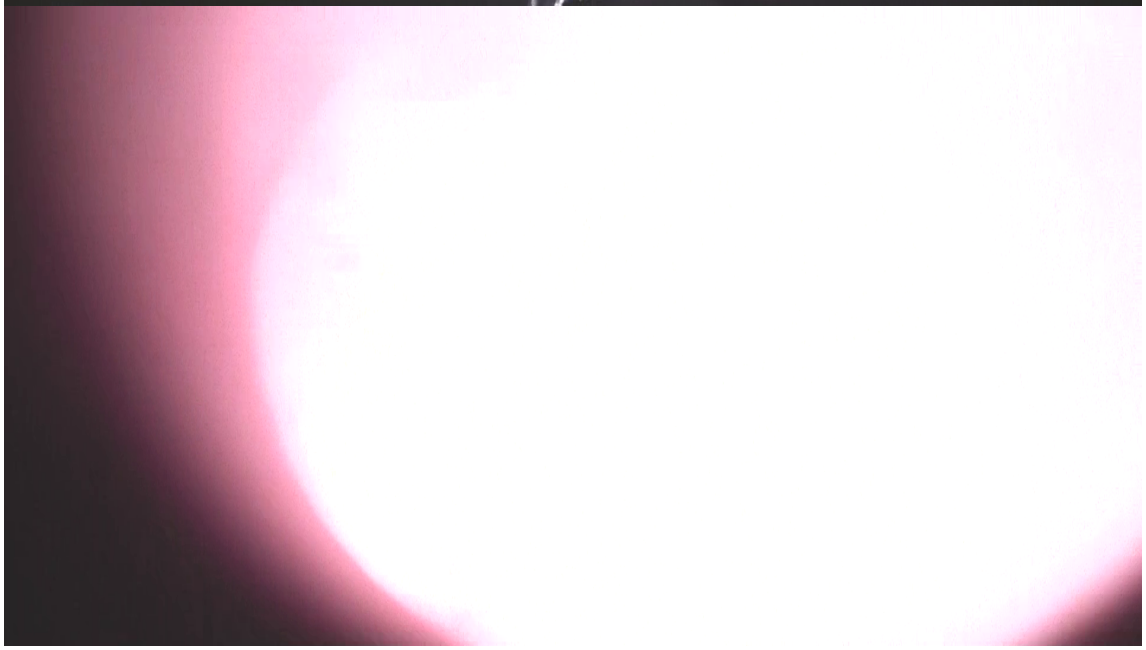


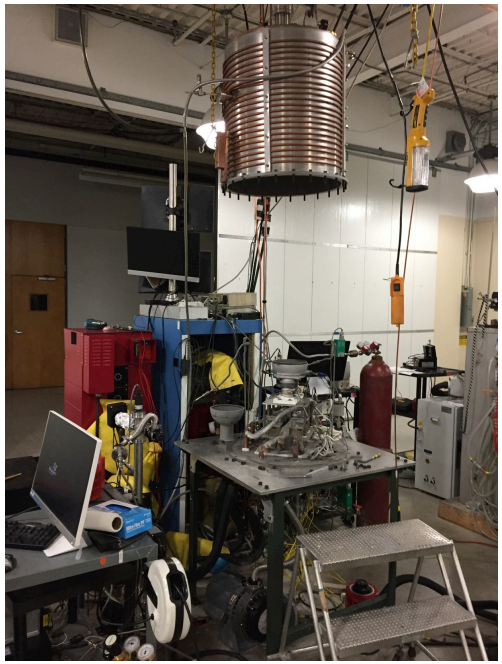
SunCell® with MHD Converter

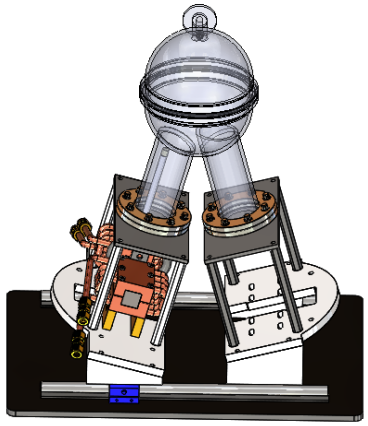
Pedestal Cathode Design is Operational as Test Bed for Hydrino Plasma Reaction Chemistry and Heater Development.





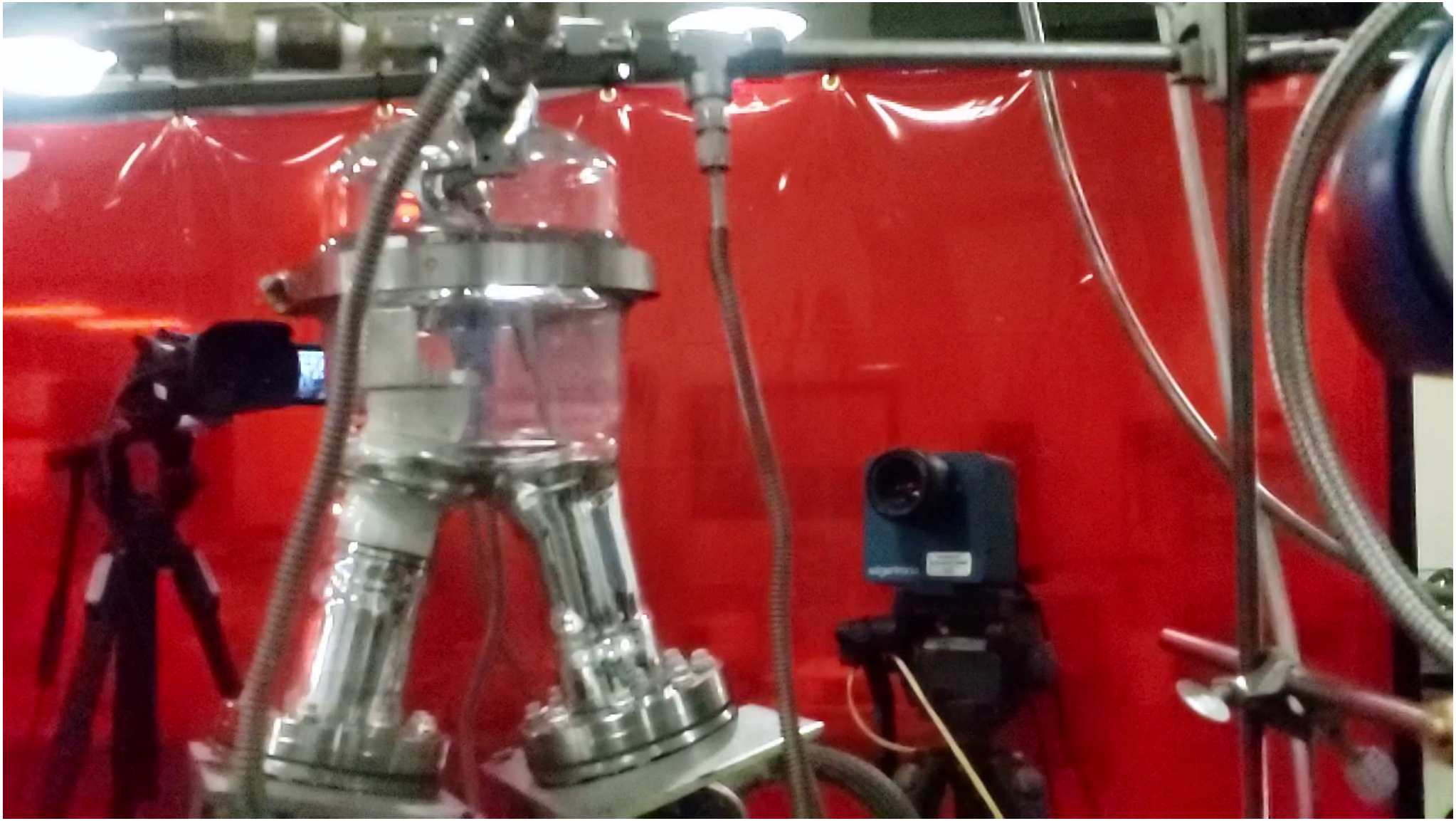






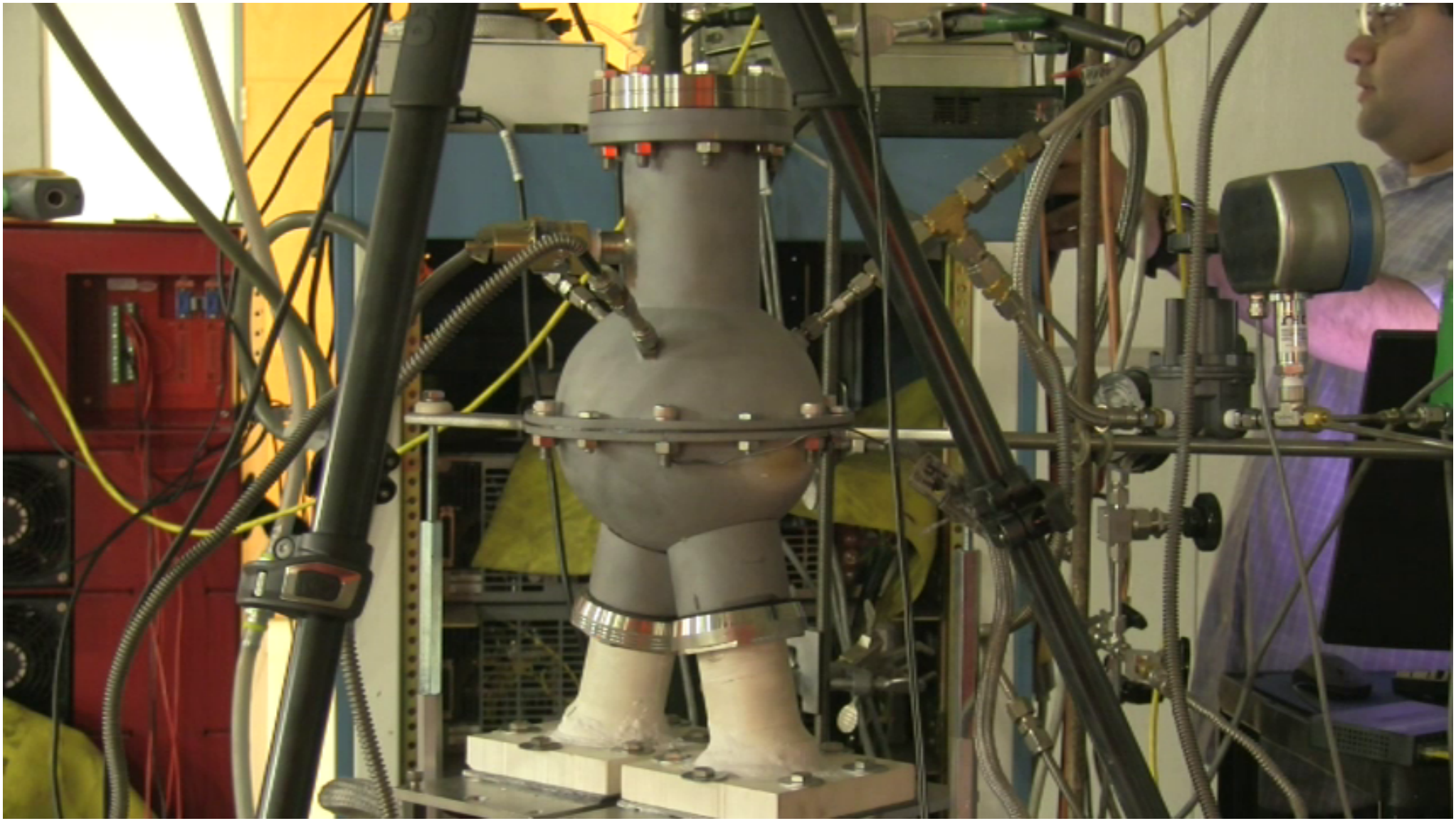
https://brilliantlightpower.com/plasma-video/

September 17th, 2018 Test

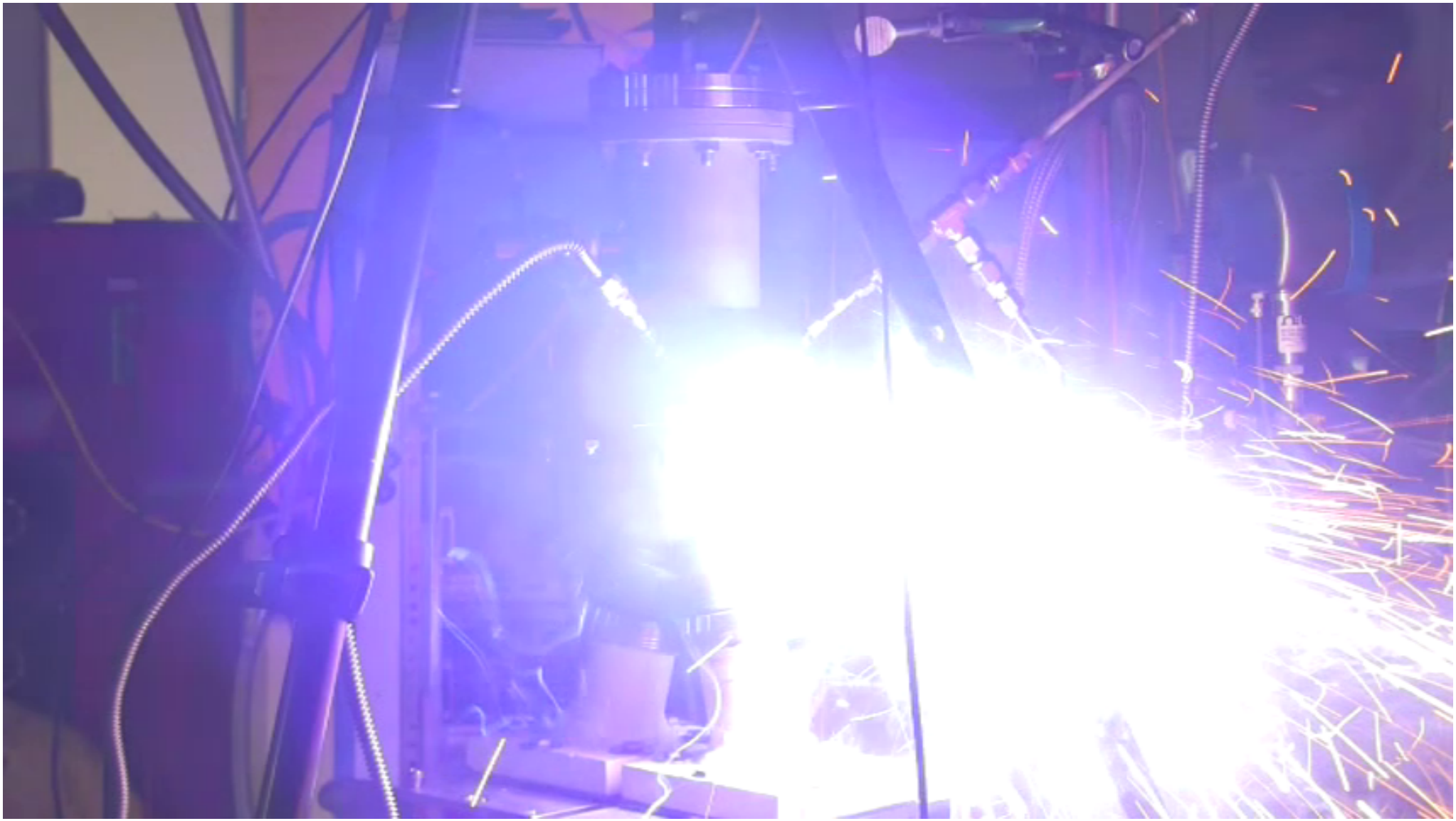


September 17th, 2018 Test

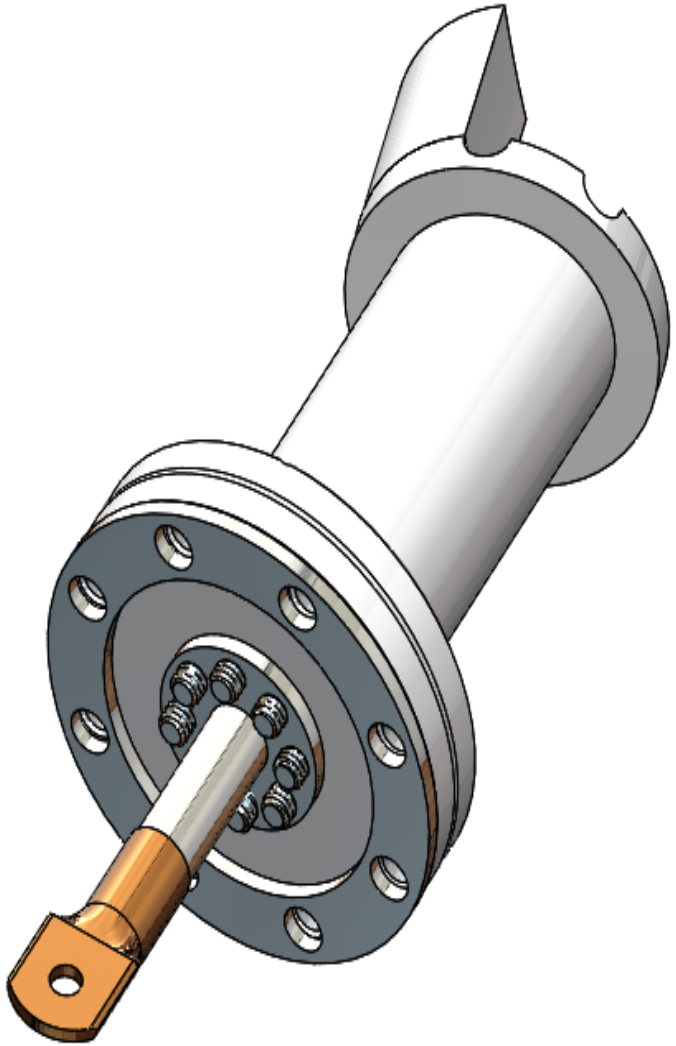
September 19th, 2018 Test



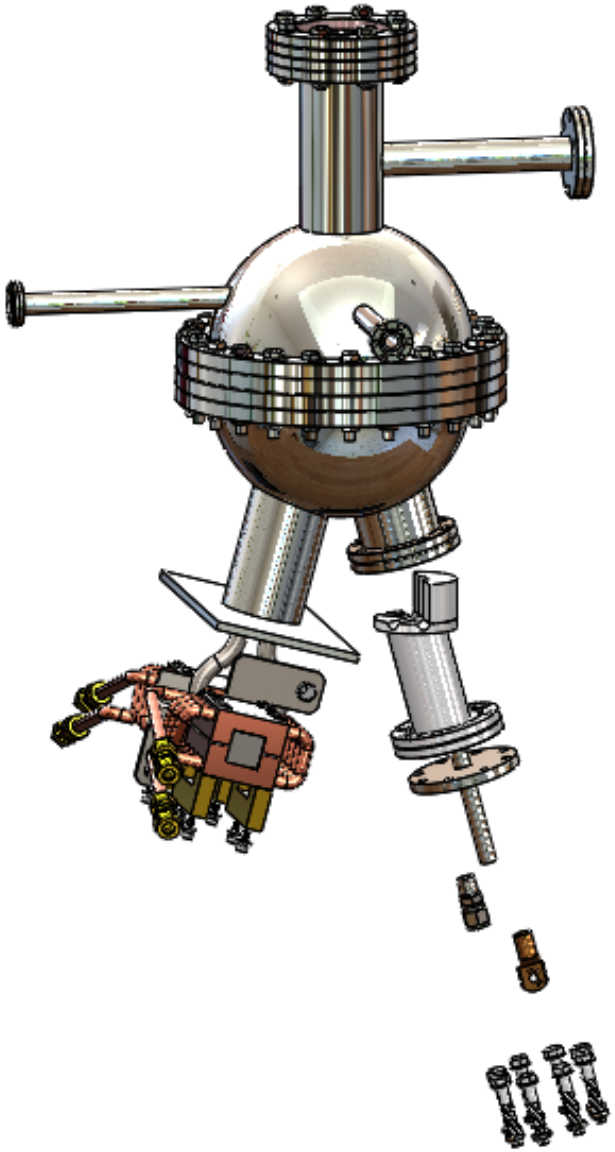
September 19th, 2018 Test



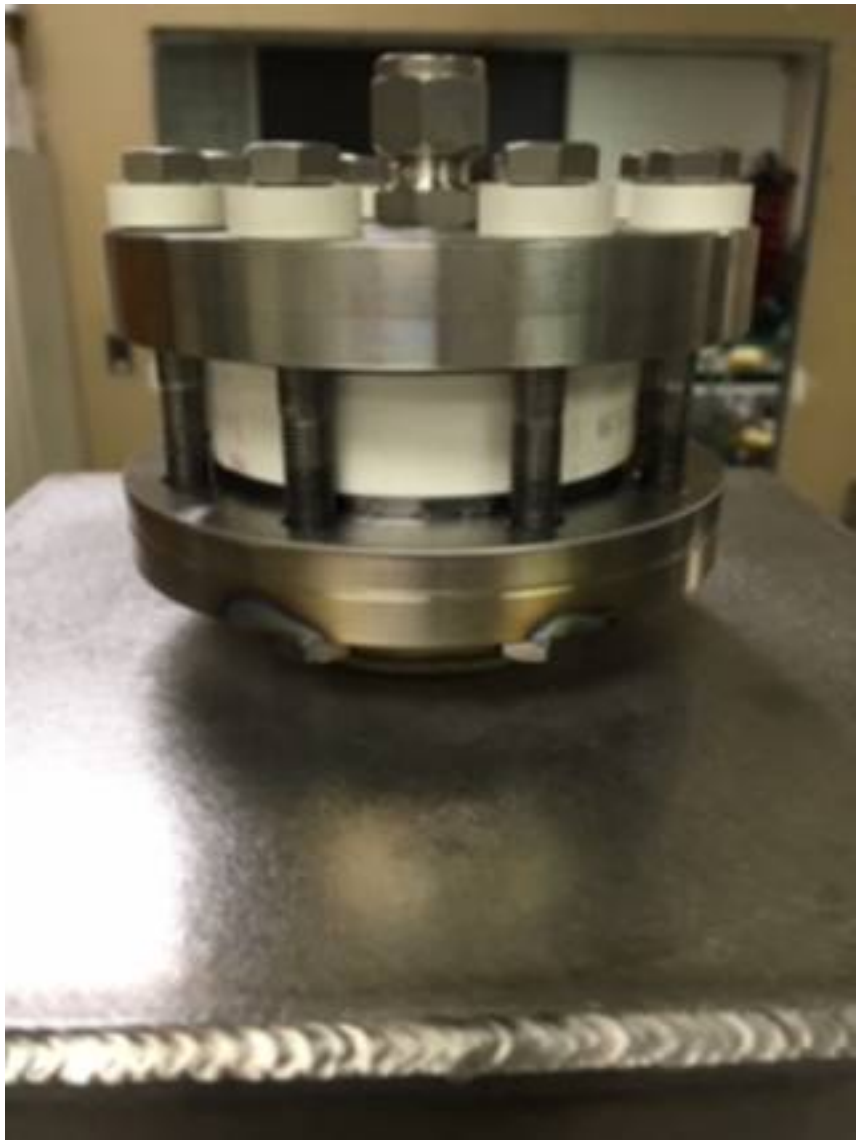
400 °C Heater (Improved Design)



400 °C Heater (Improved Design)

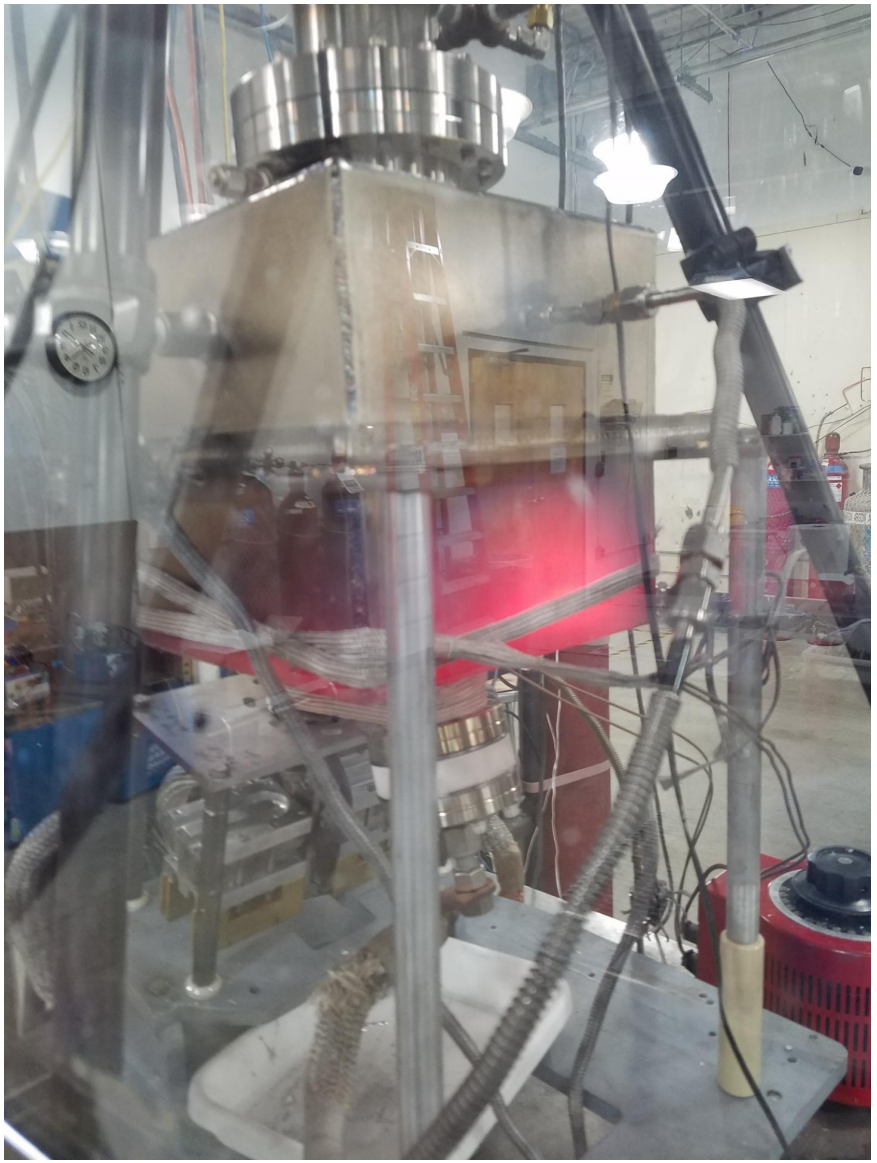


Inverted Cubic Cell

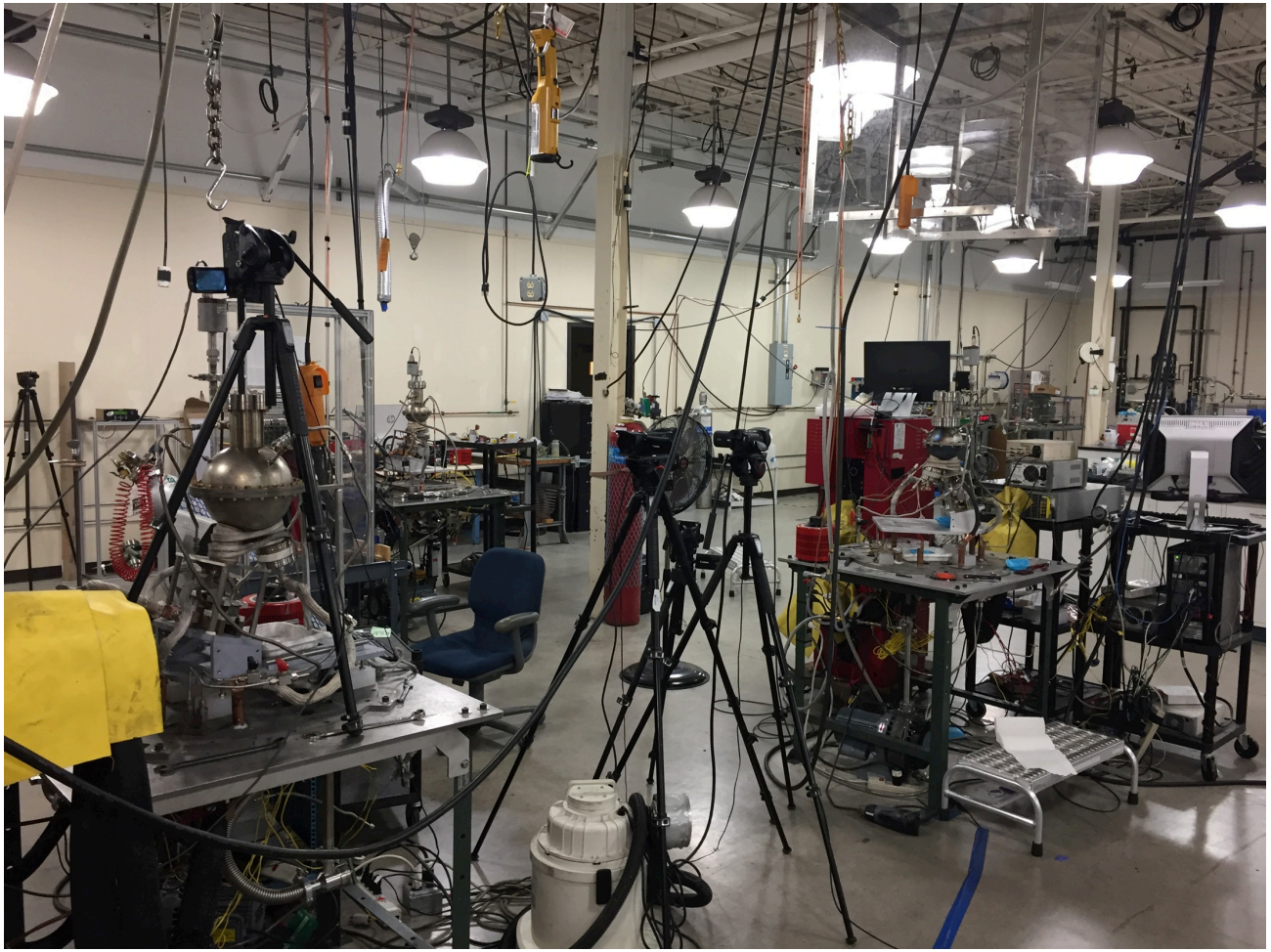


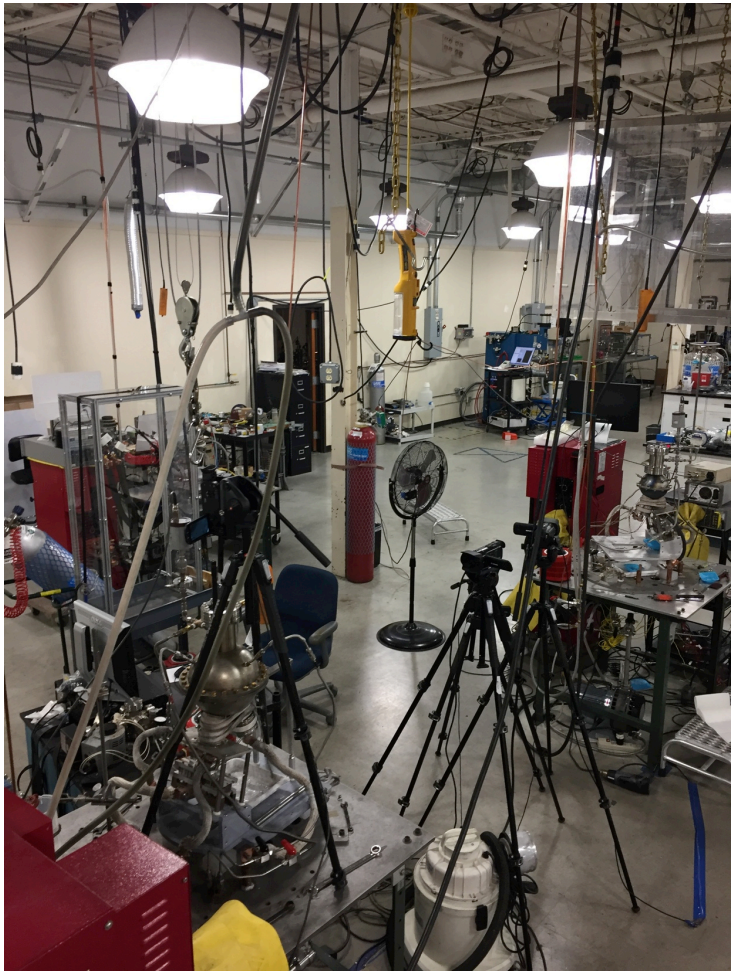
Cubic Cell Test 111419

Continuous plasma: red in seconds, status at 10 minute duration

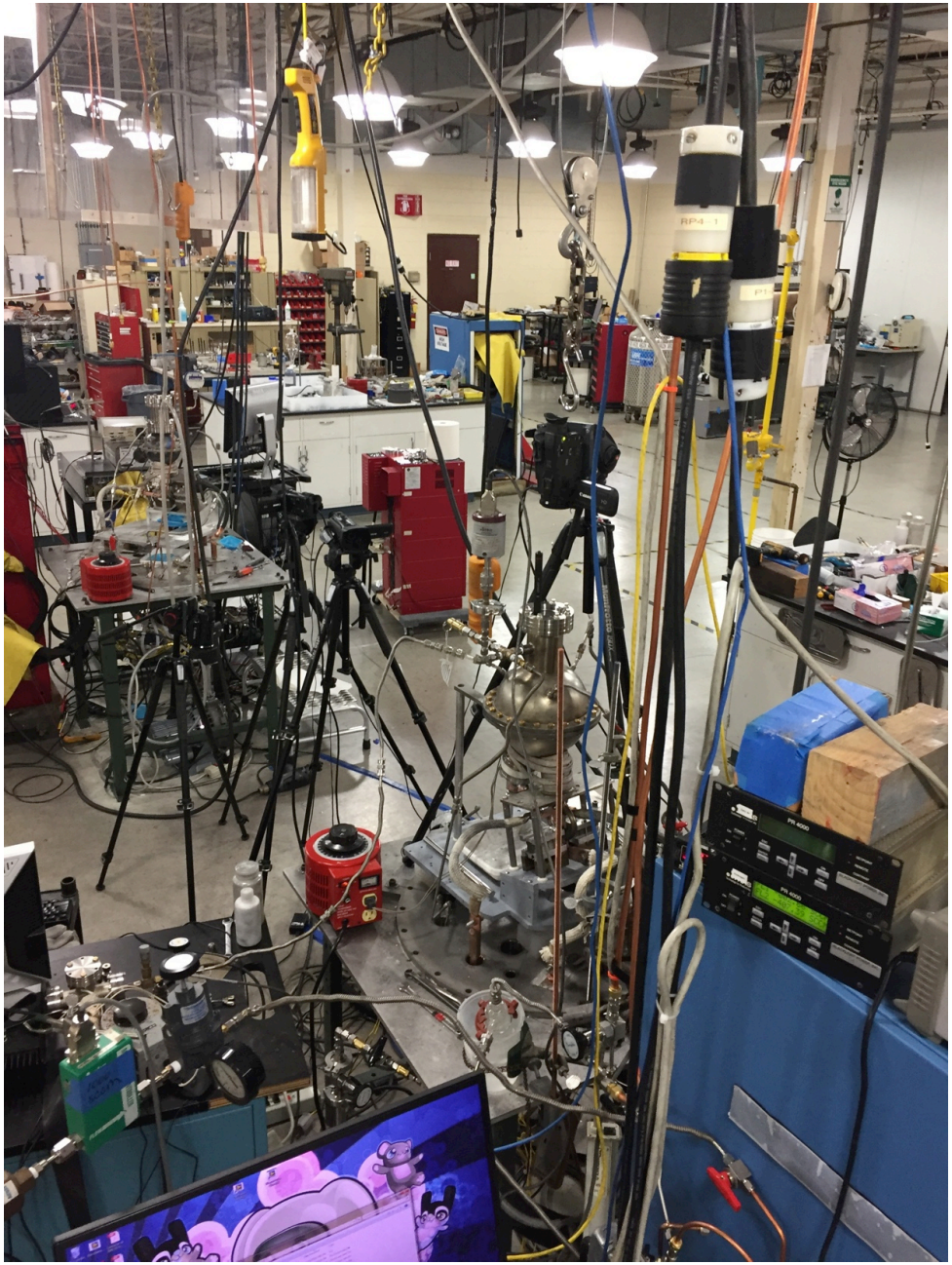


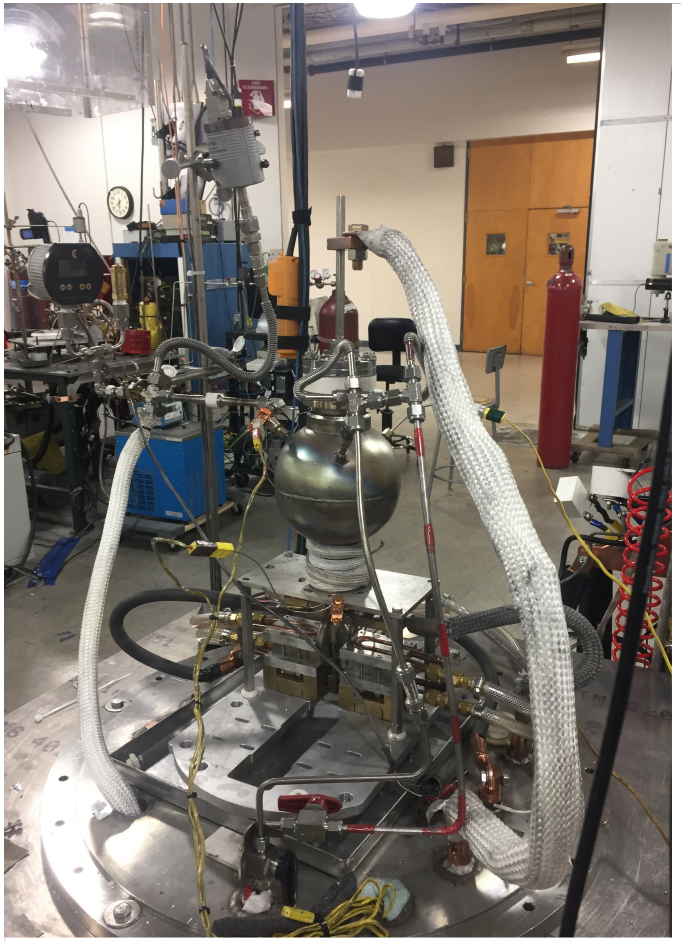
Three Test Stations Operating



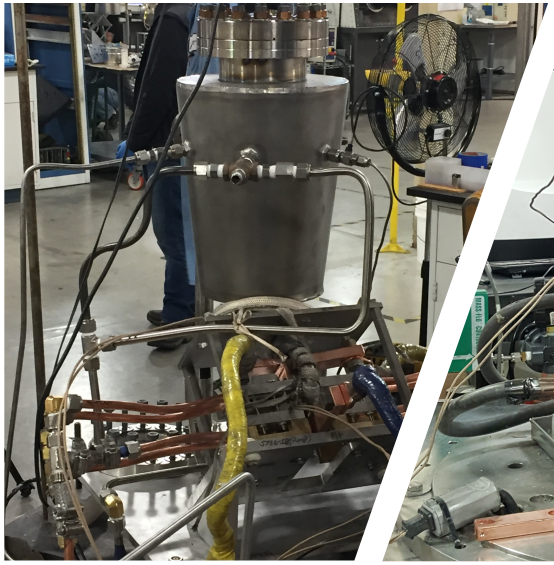
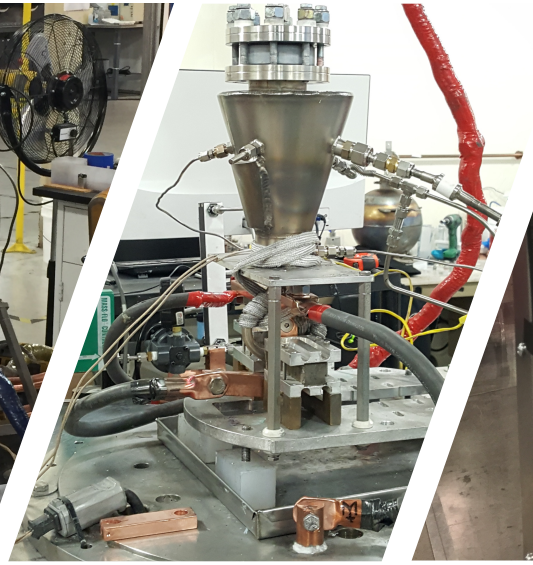
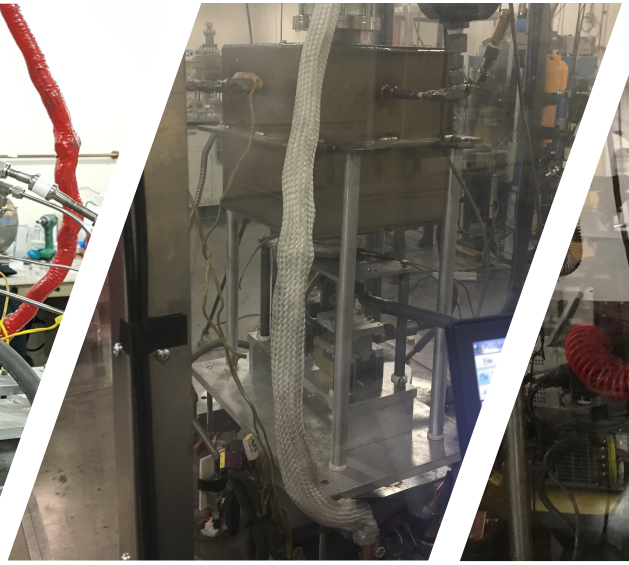
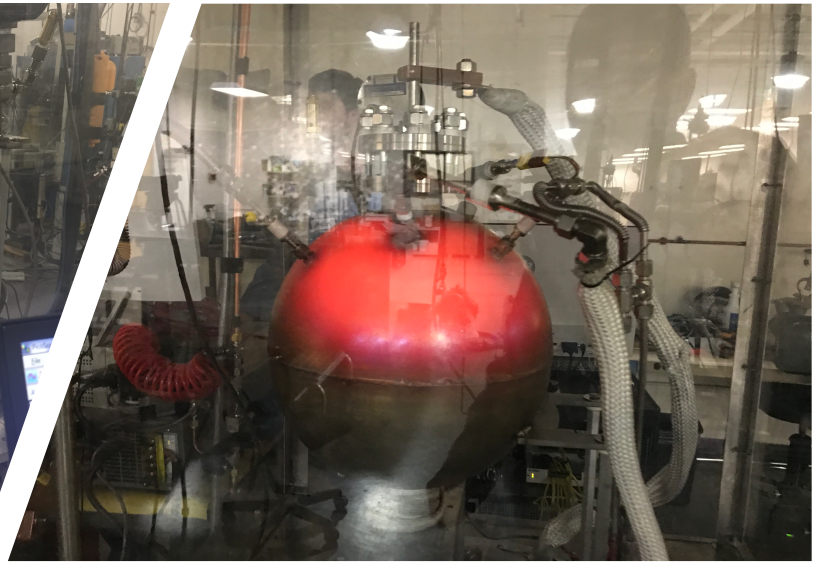


Three Test Stations Operating

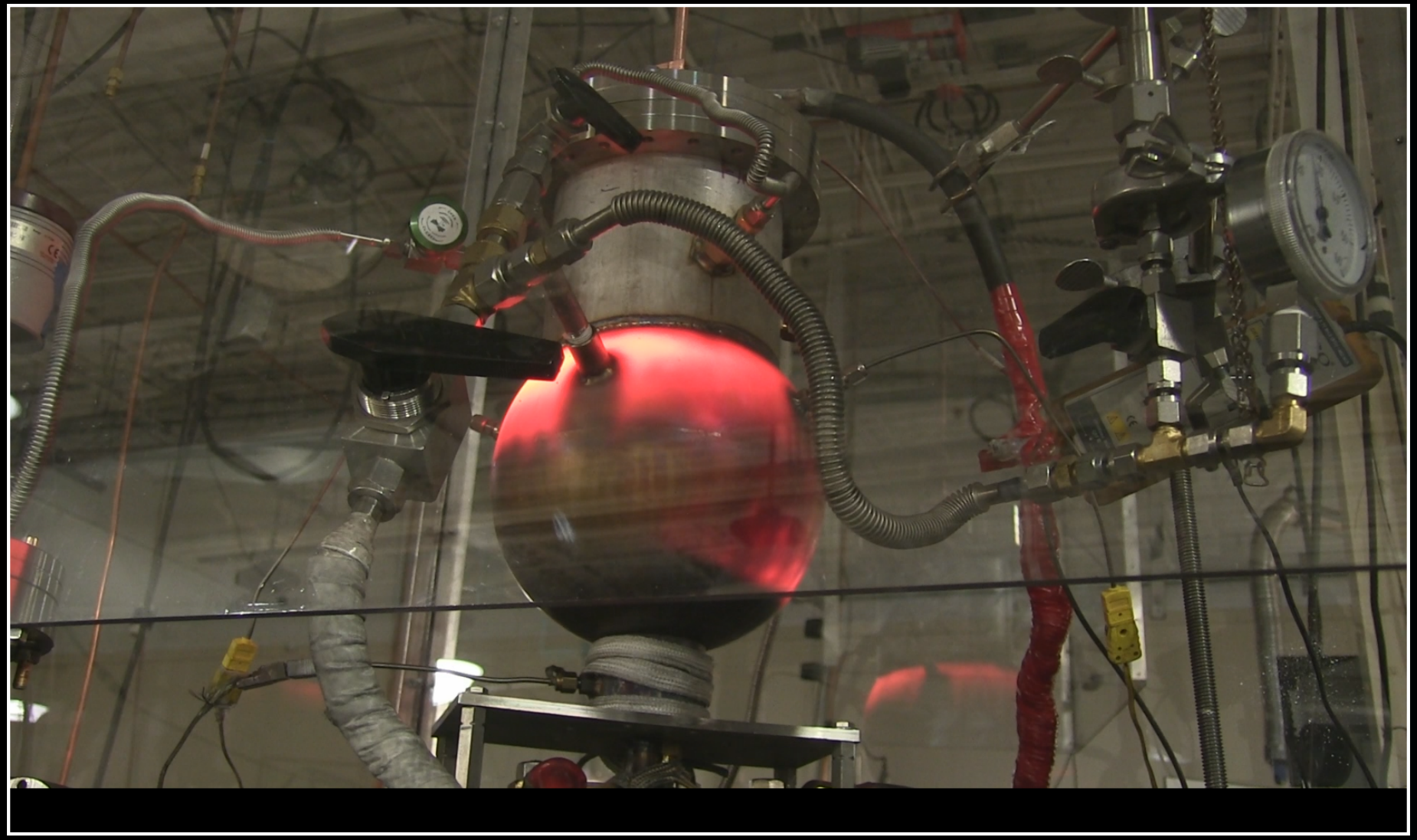




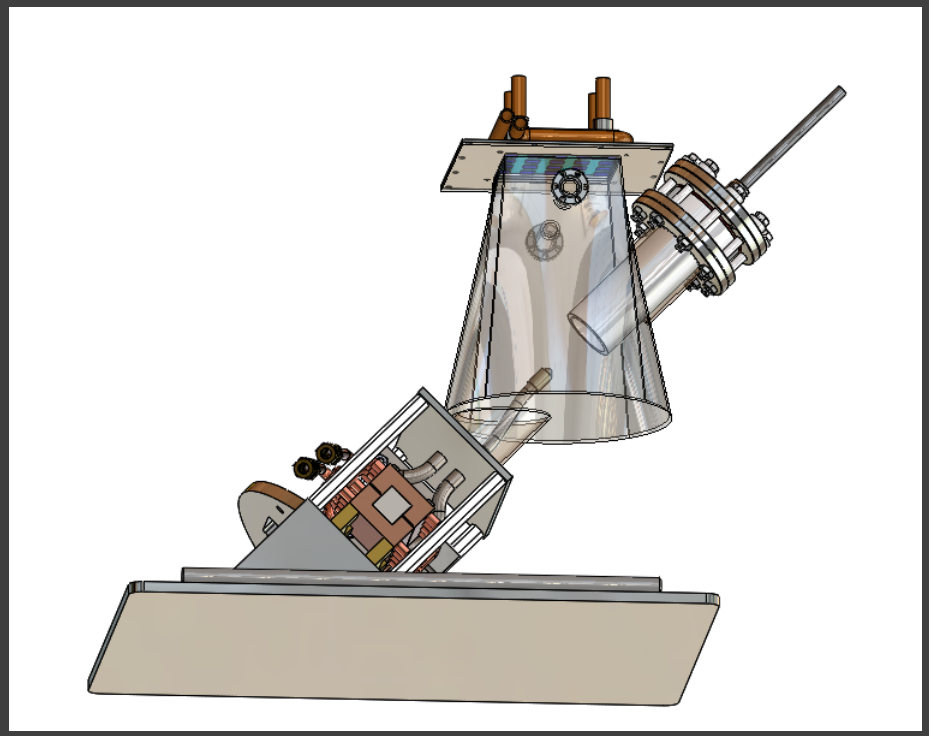
Testing Geometry, Scale, Gas Composition and Flow Rate, Ignition Systems and Parameters, Power Measurement, and Seals

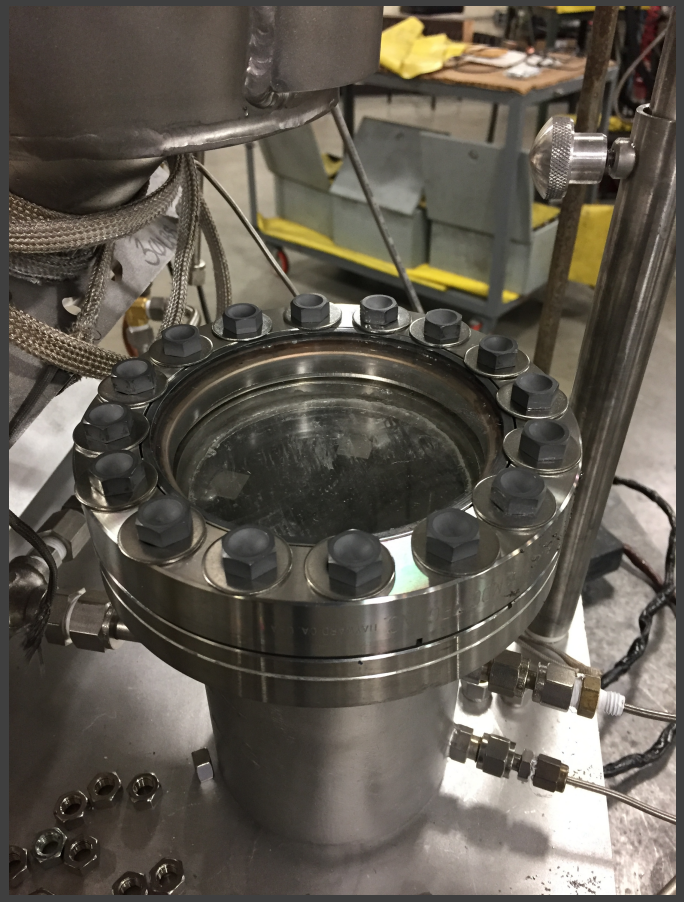

Testing Geometry, Scale, Gas Composition and Flow Rate, Ignition Systems and Parameters, Power Measurement, and Seals Cont'd



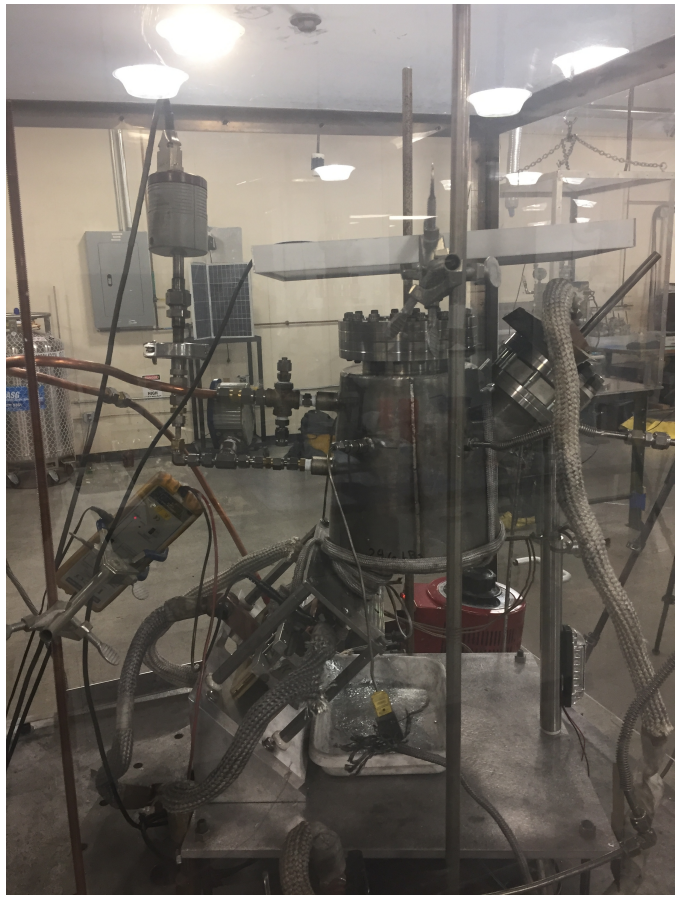
SunCell® Engineering Solutions and Reaction Condition Development and Testing



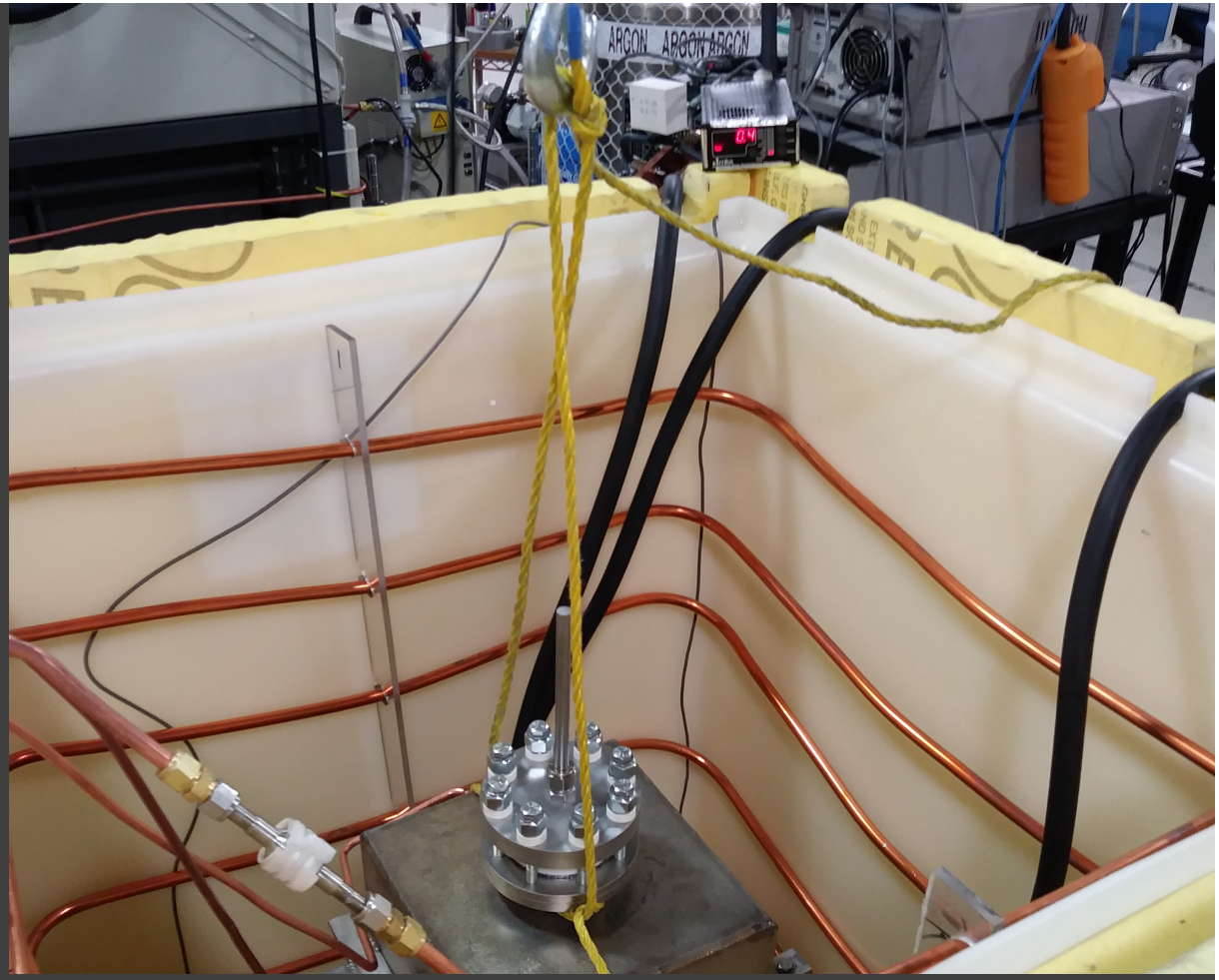
Taper-Slant Cell with Concentrator Photovoltaic Converter

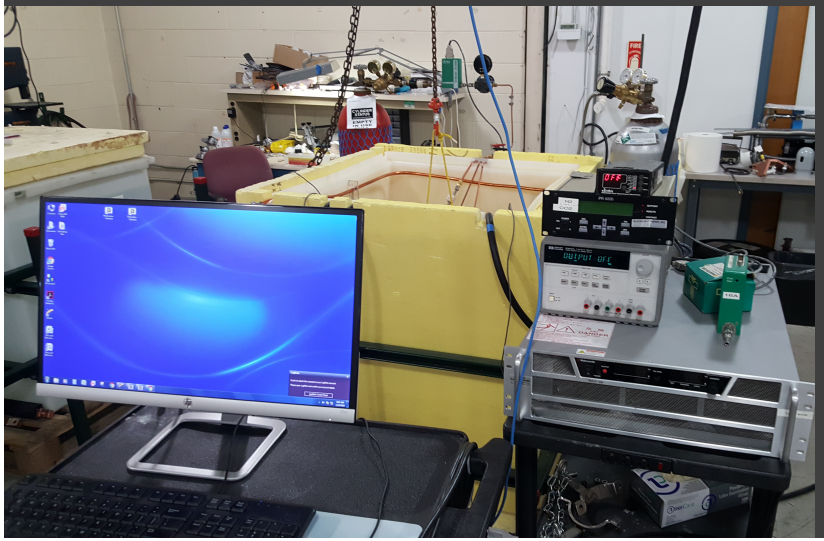


Testing PV Window Technology to Permit Photovoltaic Conversion Cont’d



Testing PV Window Technology to Permit Photovoltaic Conversion

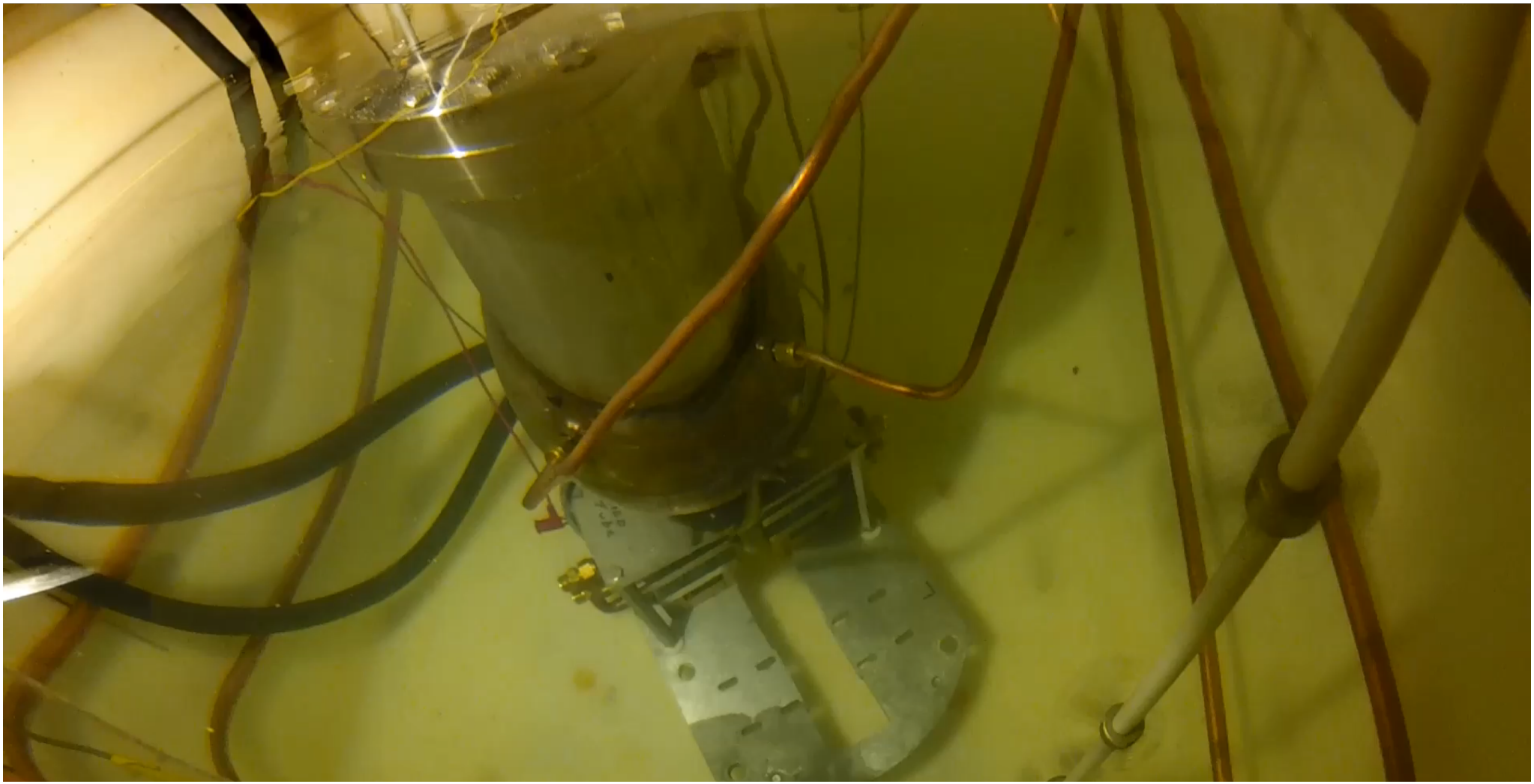




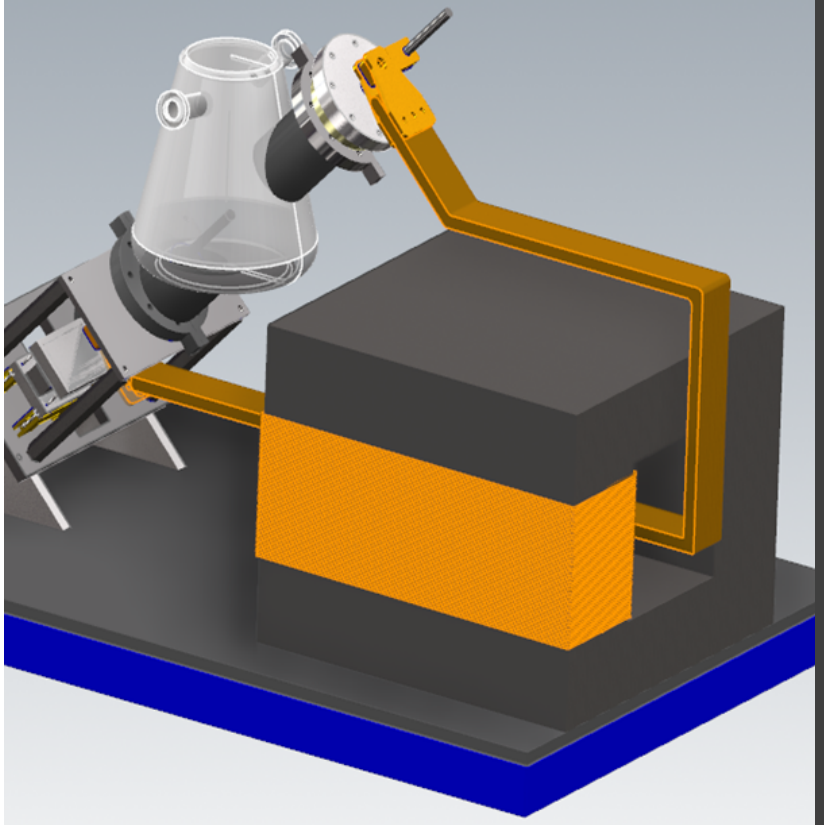
Power Conversion and Calorimetry Water Bath Calorimeter

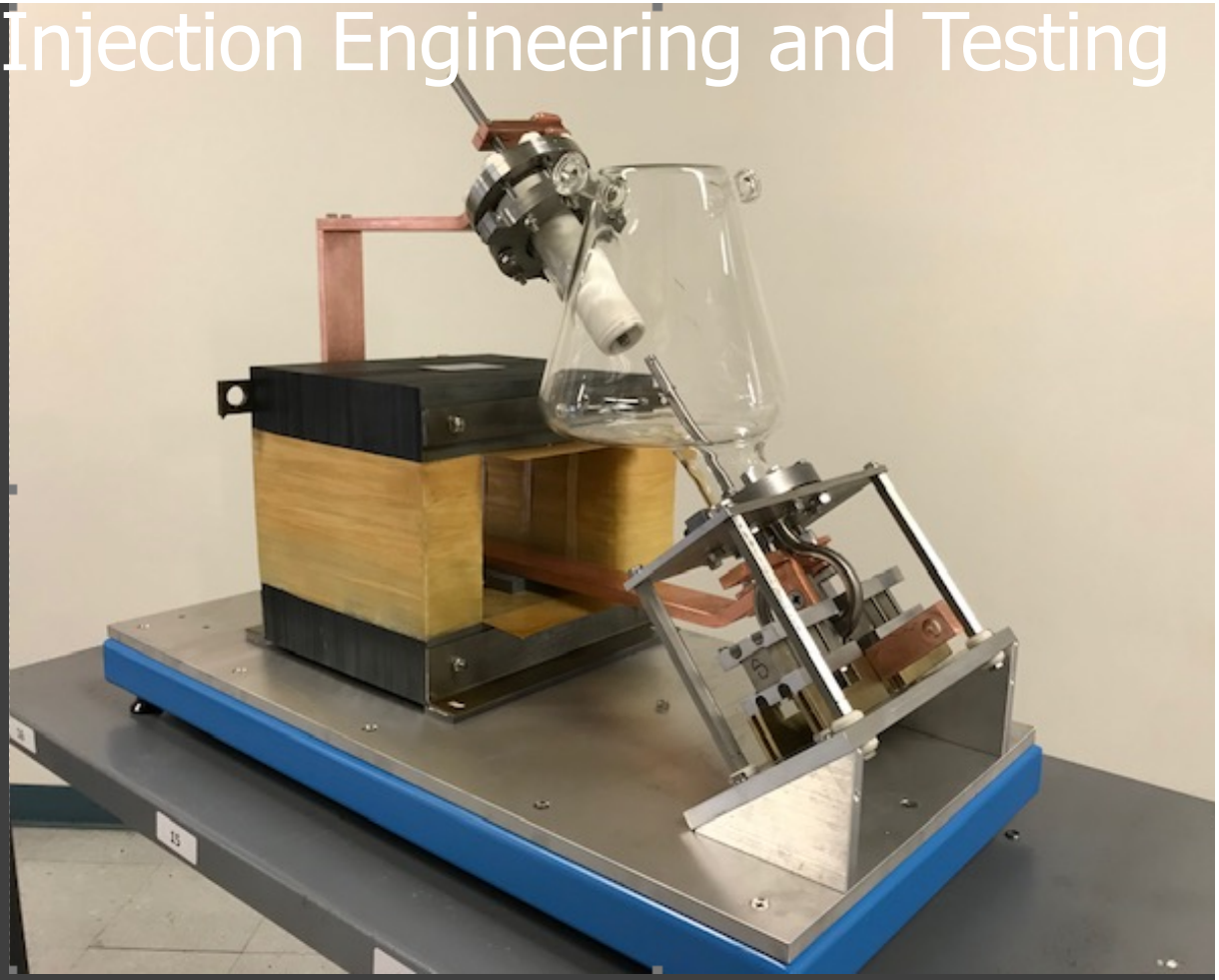
SunCell® Hydrino Reactor Power Conversion and Calorimetry (boiling video)

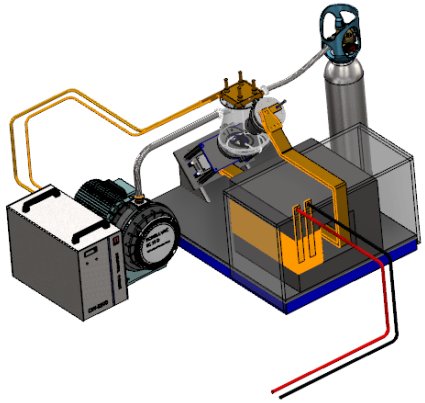
Water bath test of the SunCell® hydrino reactant gas mixture comprised hydrogen fuel added to argon, and a trace gallium oxide inventory in a large reservoir of liquid gallium served as a source of O for HOH catalyst. The molten gallium was injected from the reservoir to a counter electrode and recycled to maintain very low voltage atmospheric pressure plasma. The engineering has advanced to a stage to permit very long duration continuous operation. Heat exchange to a coolant facilitates power balance measurements and is a step towards power utilization in commercial designs.



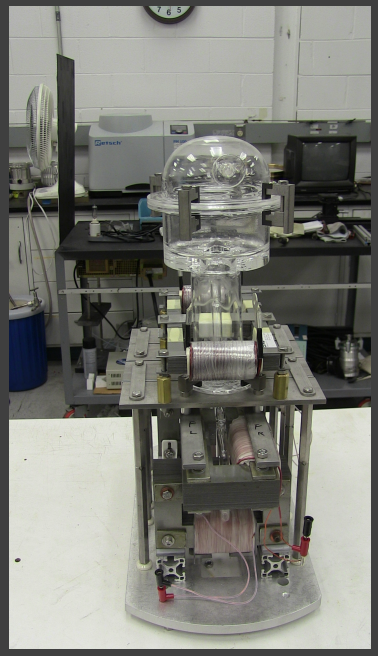
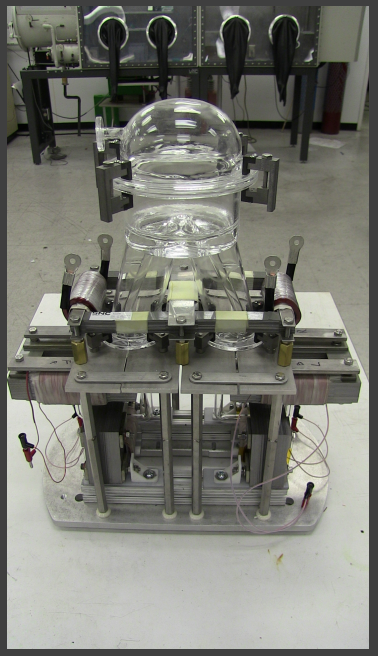
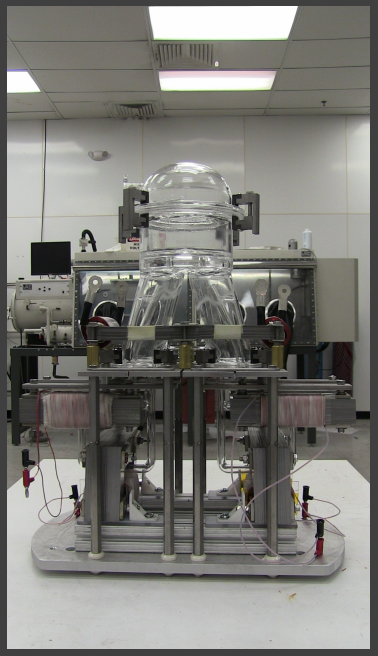
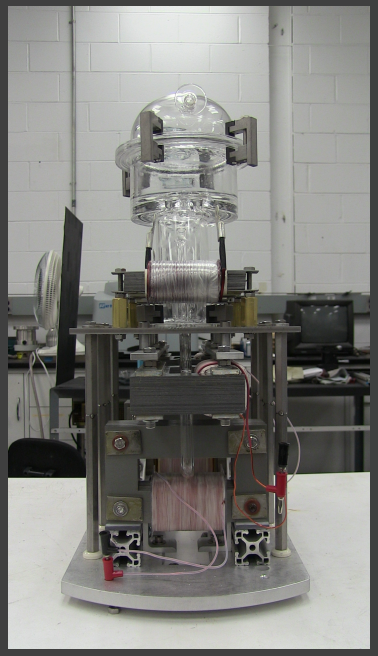
Induction Ignition and Injection Engineering and Testing





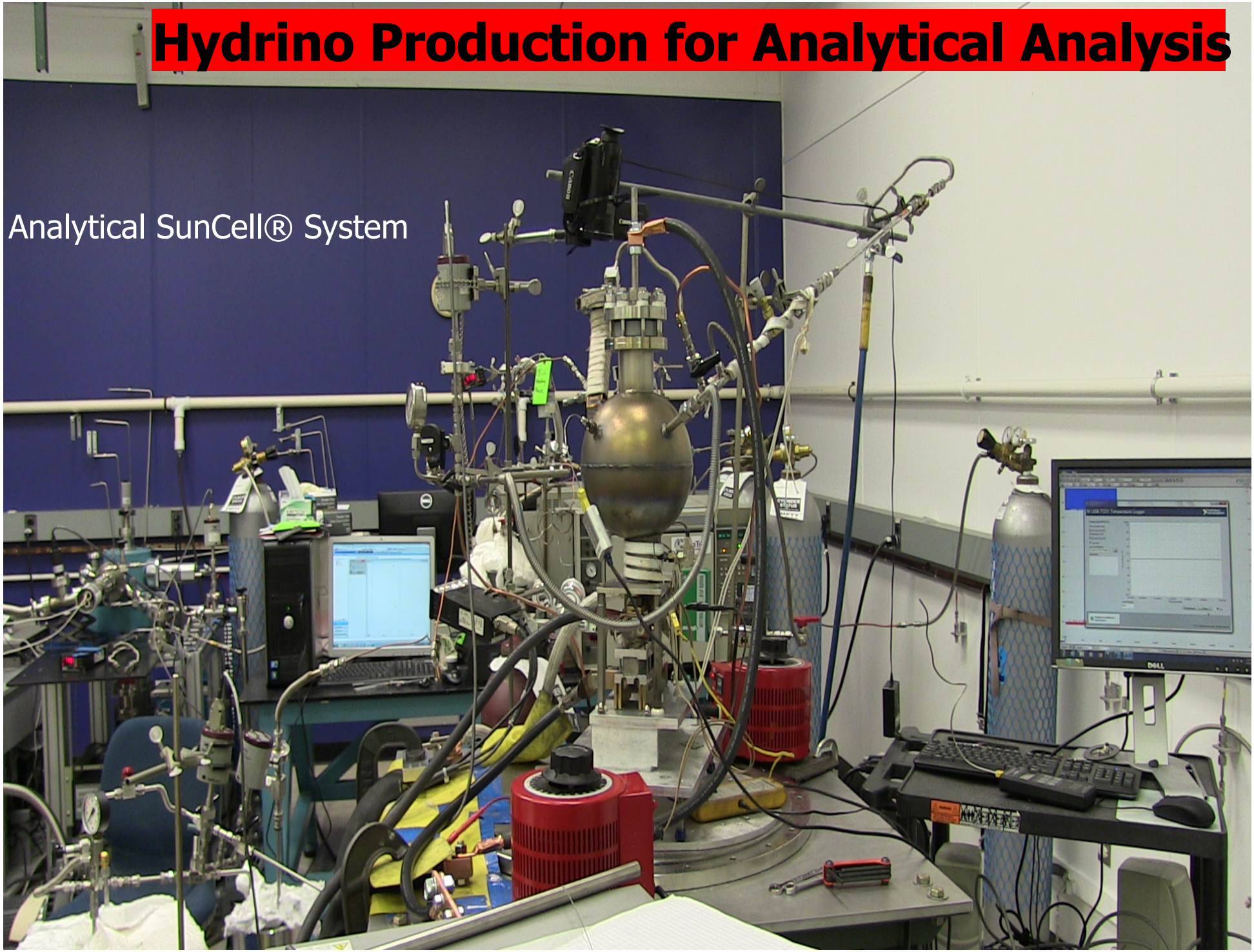


60 Hz Induction Ignition SunCell®

Induction Injection and Ignition Systems

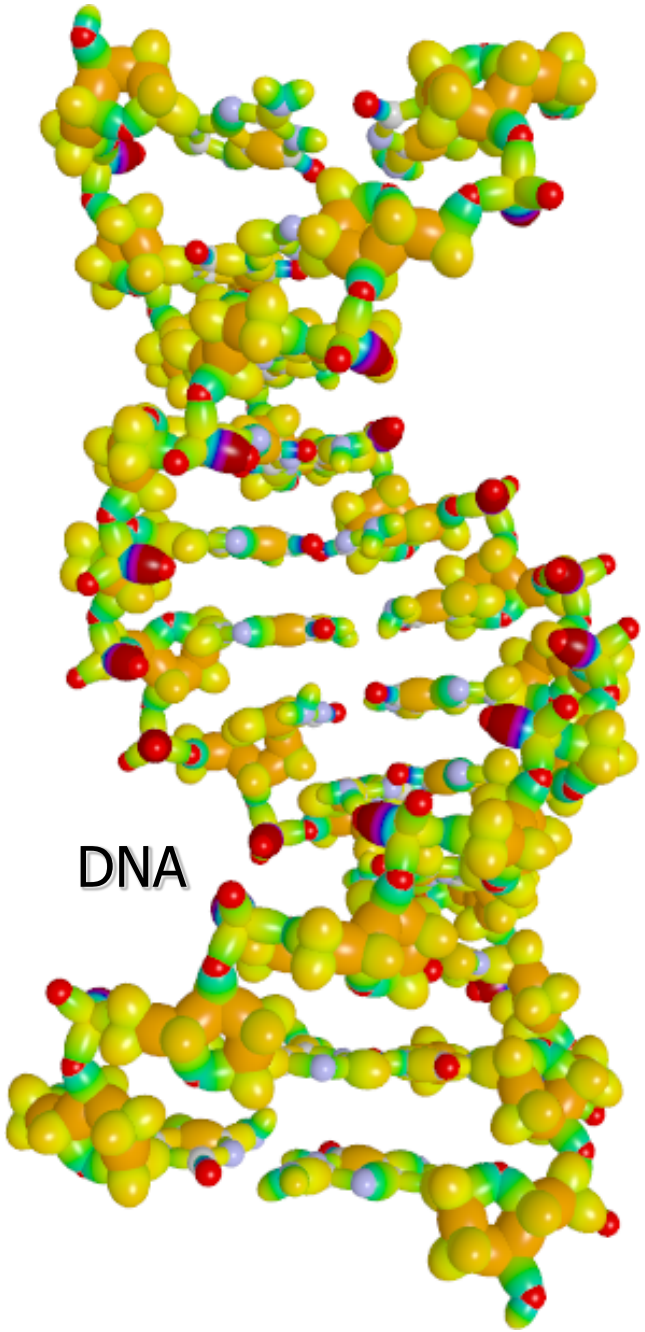
Hydrino Production for Analytical Analysis

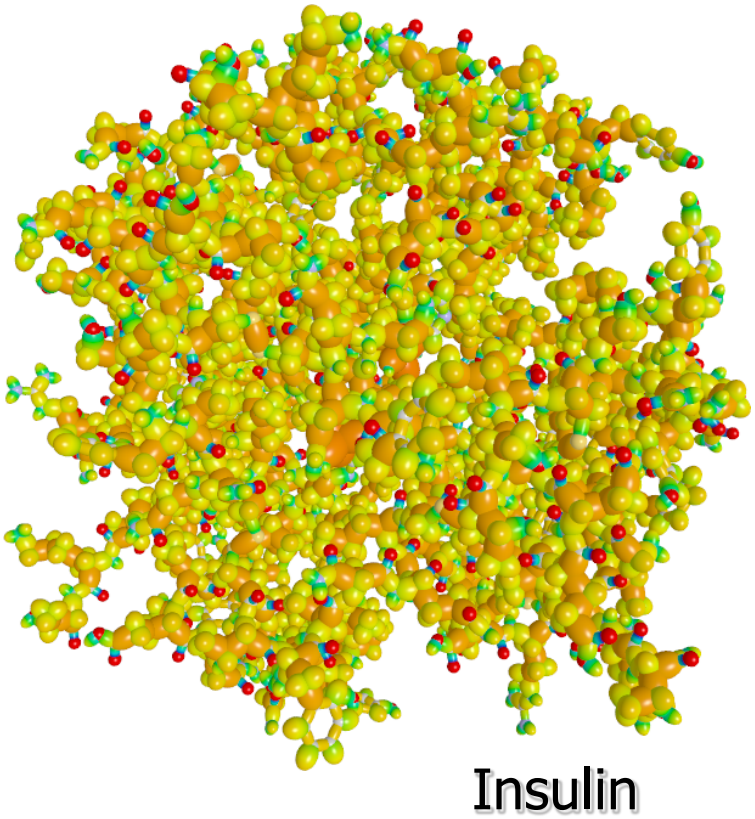


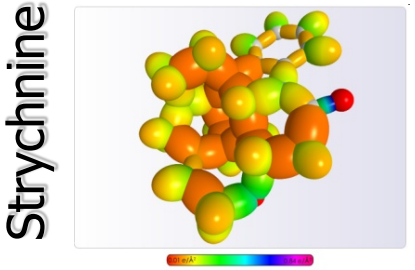
Techniques and Unique and Characteristic Signatures to Identify Hydrino are Predicted from Exact Closed-Form Solutions of Atoms and Molecules

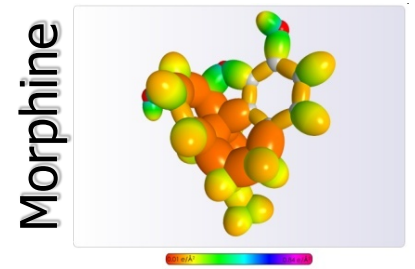
Theory Based on Classical Laws

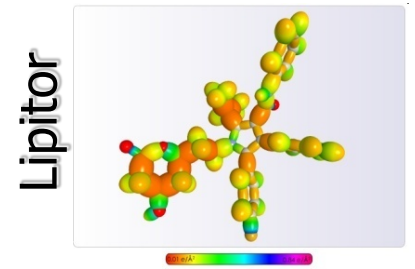
Millsian 2.0: Modeling Molecules

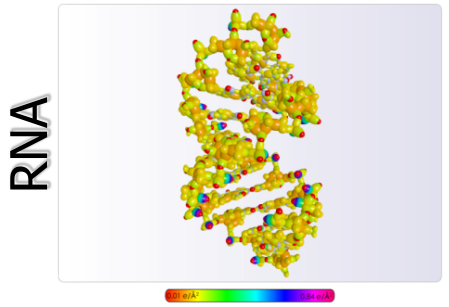








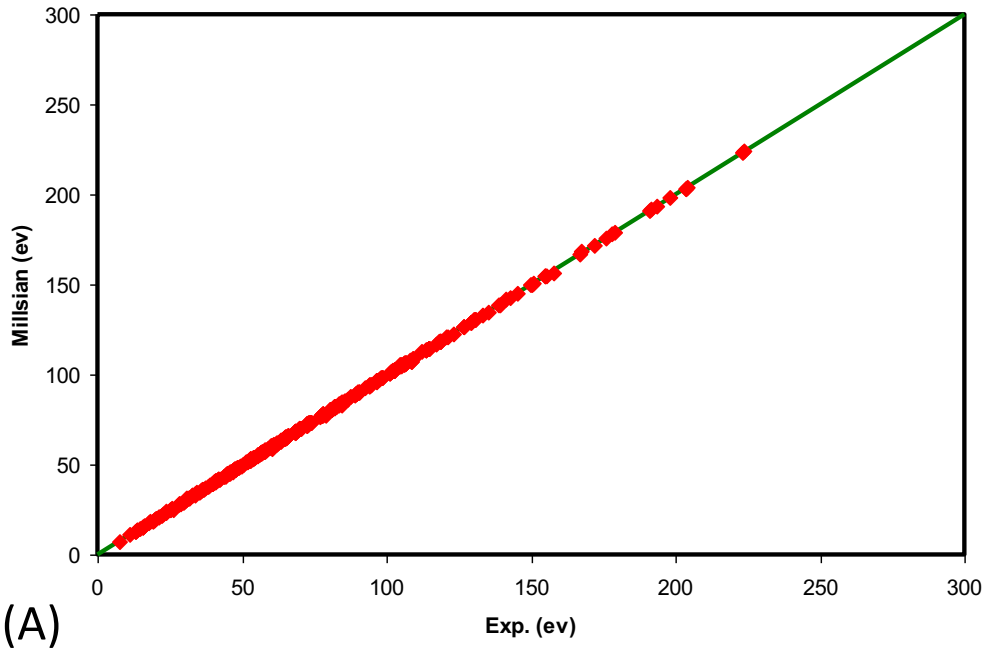




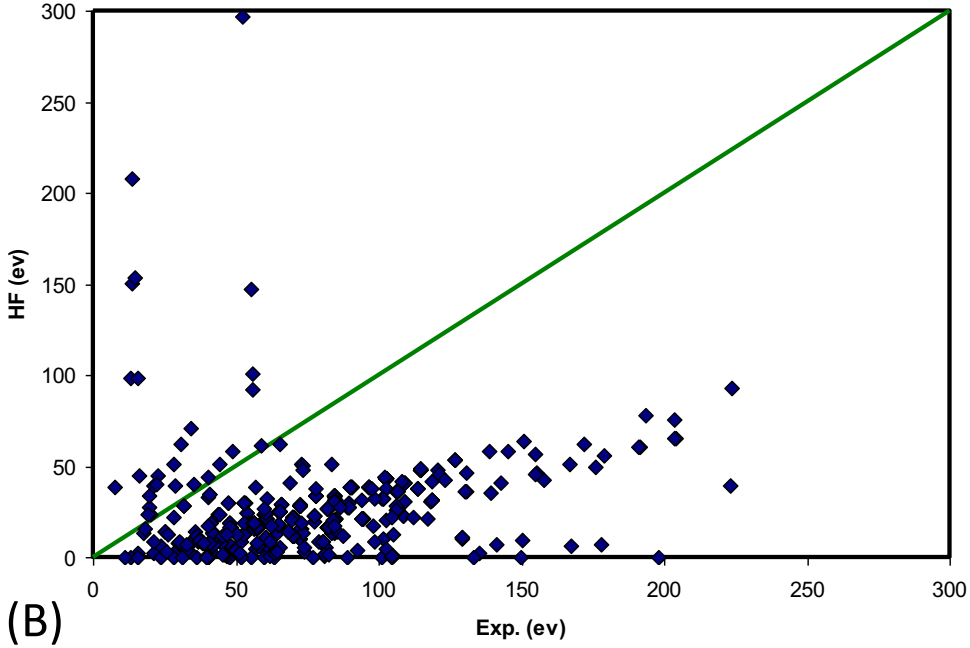
millsian.com

Comparison of Classical to Quantum Mechanical Performance

The total bond energies of exact classical solutions of 415 molecules generated by Millsian 1.0 and those from a modern quantum mechanics-based program, Spartan's pre-computed database using 6-31G* basis set at the Hartree-Fock level of theory, were compared to experimental values. (A) The Millsian results were consistently within an average relative deviation of about 0.1% of the experimentally values. (B) In contrast, the 6-31G* results deviated over a wide range of relative error, typically being >30-150% with a large percentage of catastrophic failures, depending on functional group type and basis set.



(A)

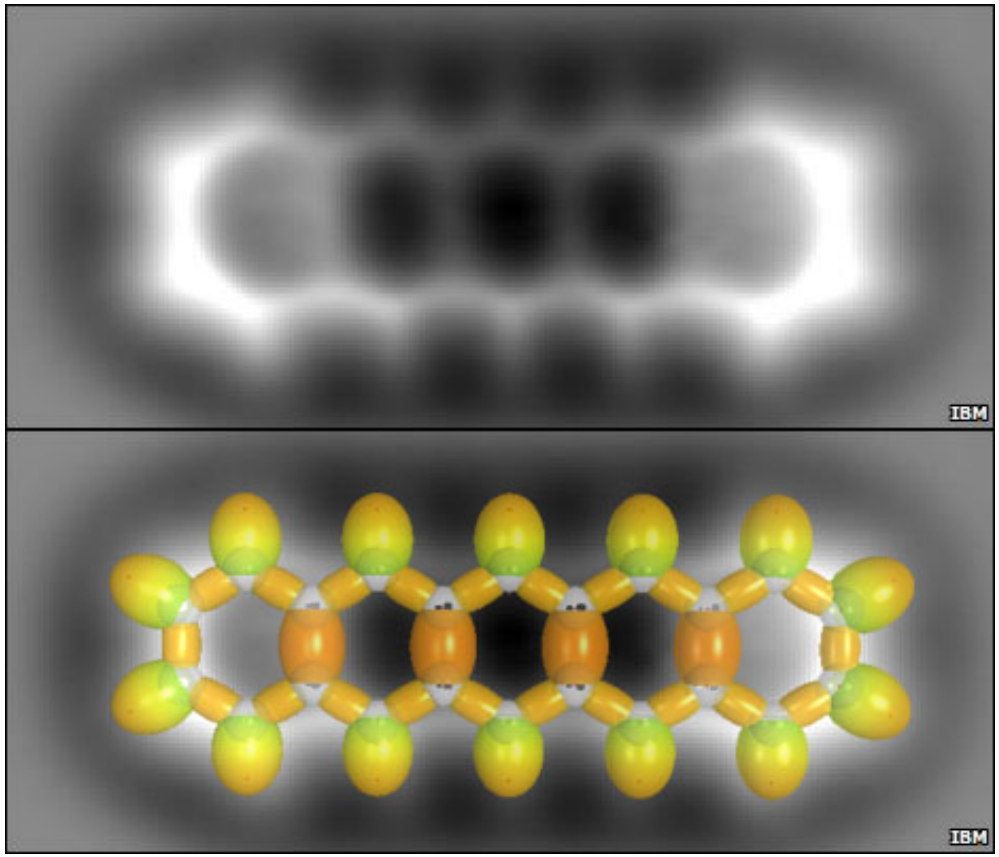


(B)

R. L. Mills, B. Holverstott, W. Good, A. Makwana, J. Paulus, "Total Bond Energies of Exact Classical Solutions of Molecules Generated by Millsian 1.0 Compared to Those Computed Using Modern 3-21G and 6-31G* Basis Sets," Phys. Essays 23, 153 (2010); doi: 10.4006/1.3310832

Physical Image Compared to Physical Solution

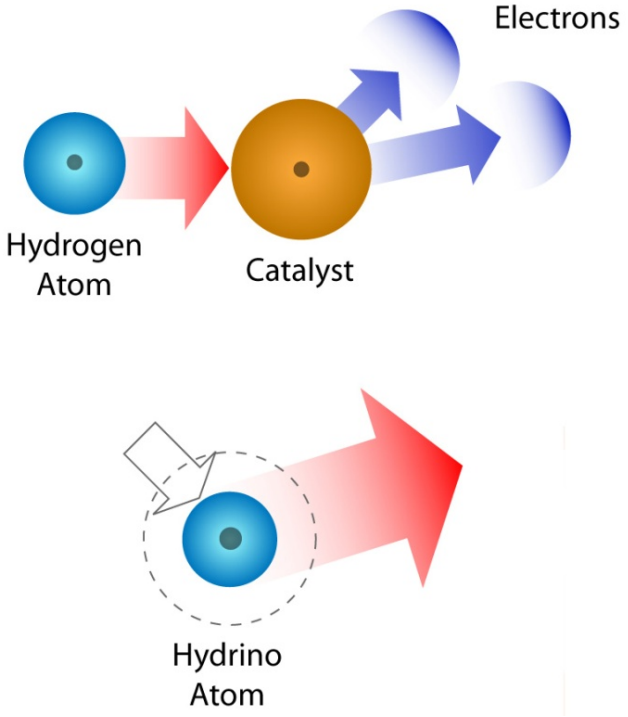
The polycyclic aromatic hydrocarbon pentacene was imaged by atomic force microscopy using a single CO molecule as the probe. The resulting breakthrough in resolution revealed that in contrast to the fuzzy images touted by quantum theoreticians as proof of the cloud model of the electron, the images showed localized bonding MOs and AOs in agreement with the classical solution.



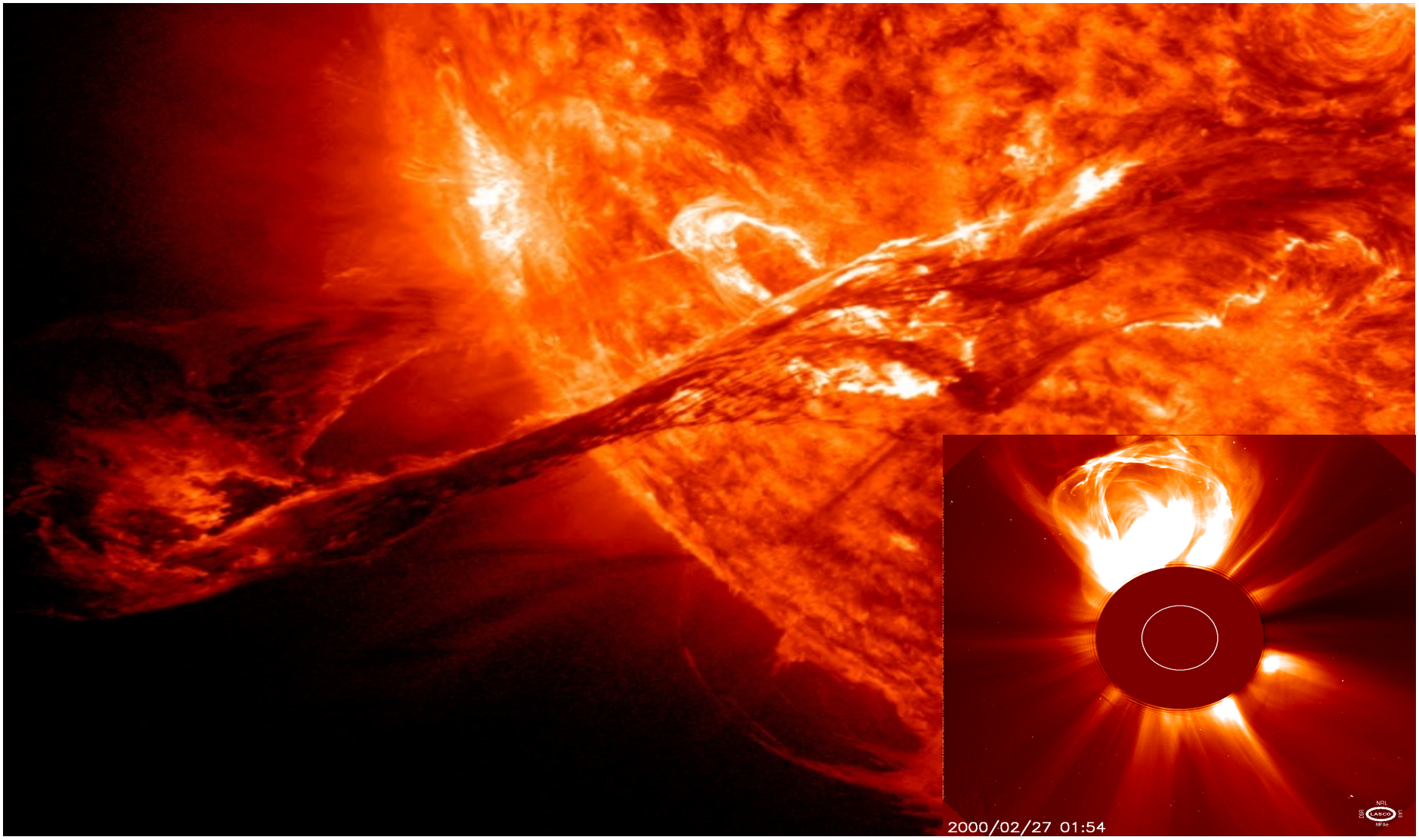
Atomic force microscopy image of pentacene by Gross et al. Bottom, the superimposed analytical classical solution that matches the physical structure. [L. Gross, F. Mohn, N. Moll, P. Liljeroth, G. Meyer, "The chemical structure of a molecule resolved by atomic force microscopy", Science, Vol. 325, (2009), pp. 1110-1114.]

Catalytic Reaction of Atomic Hydrogen to Hydrino®

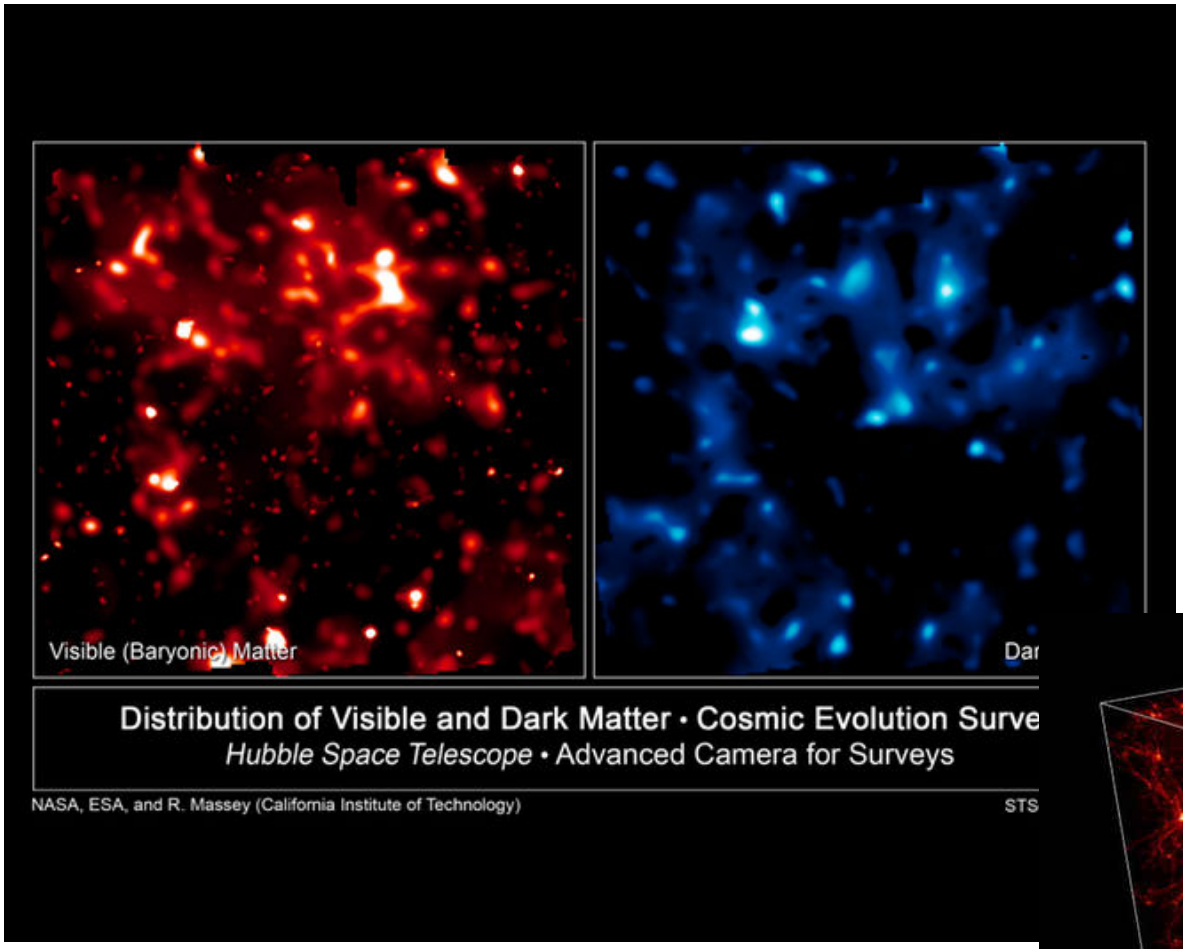
1. Atomic hydrogen reacts with an energy acceptor called a catalyst wherein energy is transferred from atomic hydrogen to the catalyst which forms an ion due to accepting the energy
2. Then, the negative electron drops to a lower shell closer to the positive proton to form a smaller hydrogen atom called a “hydrino” releasing energy that ultimately is in the form of heat
3. The catalyst ion regains its lost electrons to reform the catalyst for another cycle with the release of the initial energy accepted from hydrogen. With the imposition of an arc current condition, the limiting space charge of the ionized electrons is eliminated and the rate becomes massively high.

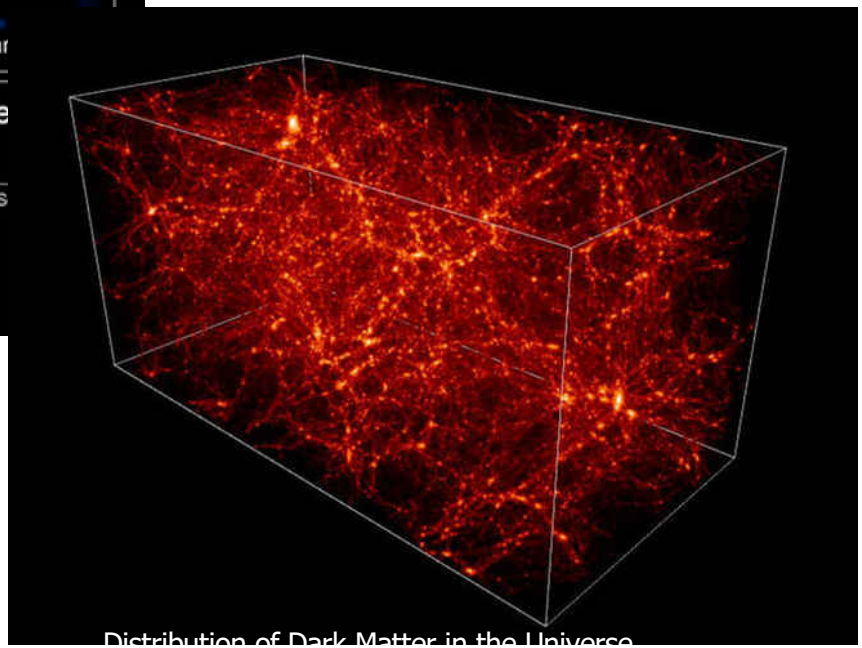


The Hydrino® and the Suns corona



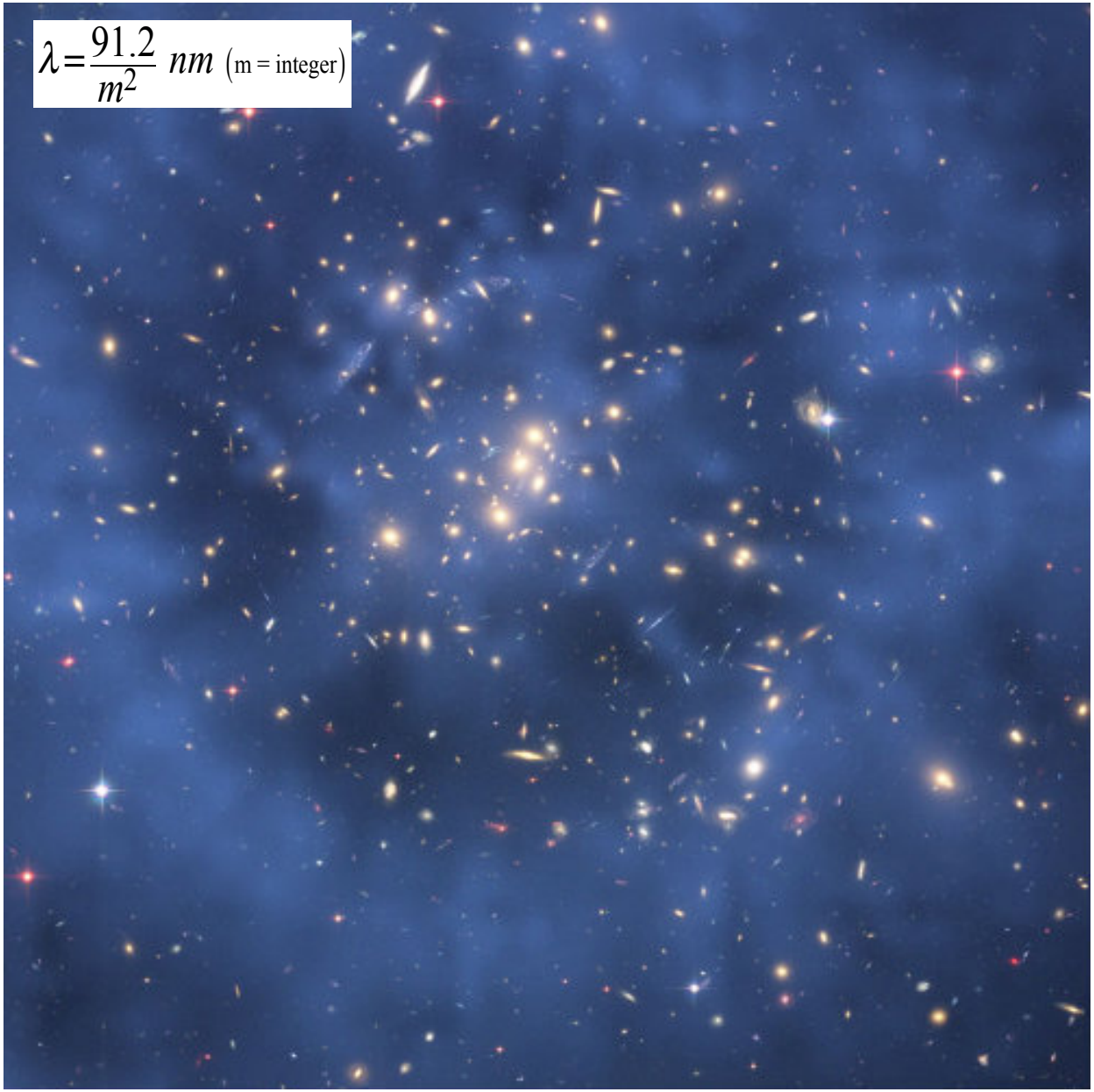
Dark Matter: The Hydrino® observed in nature

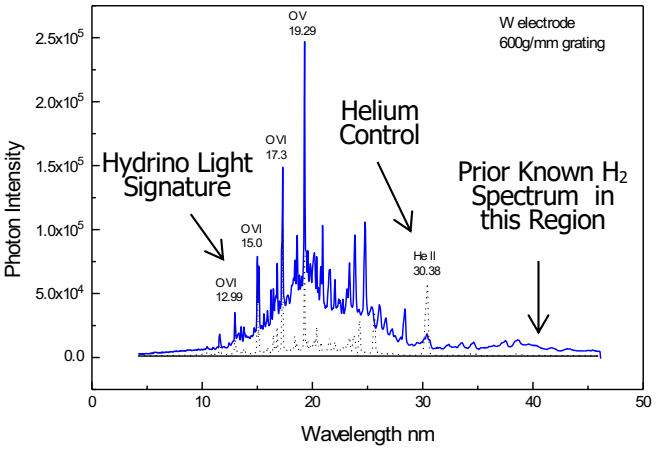


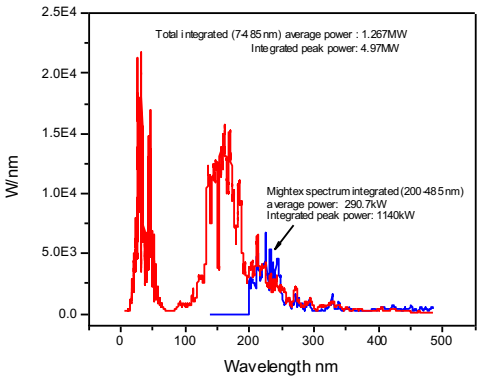


Dark Matter ring in galaxy cluster

$$\lambda = \frac{91.2}{m^2}\ nm\ \left(\text{m} = \text{integer}\right)$$

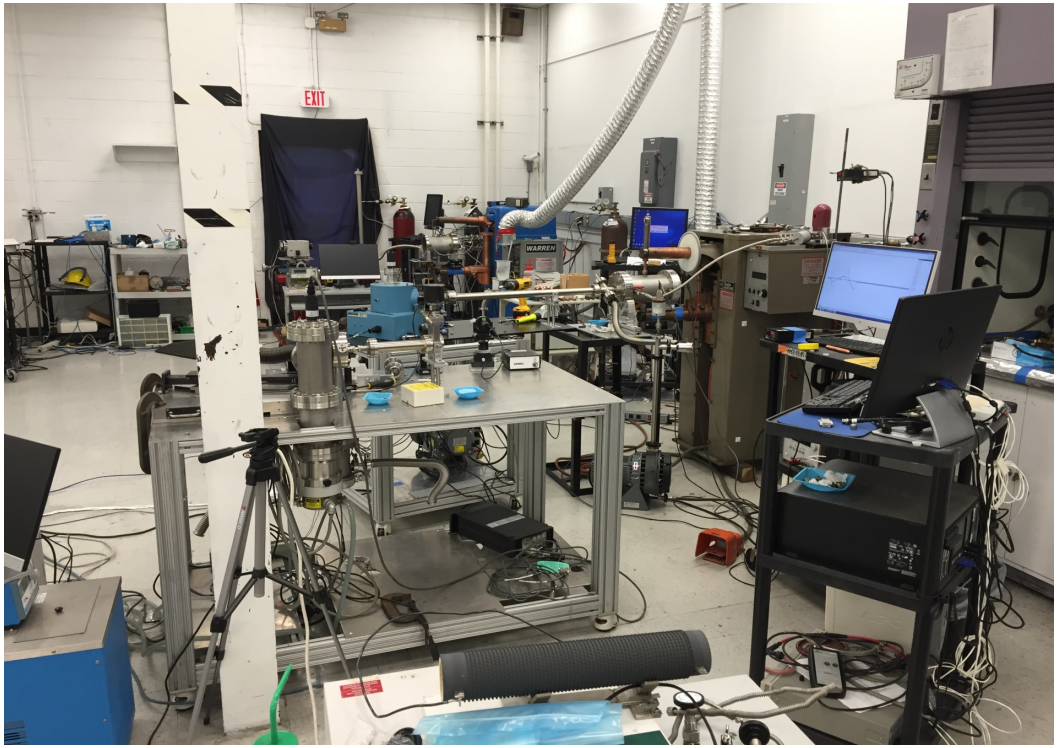


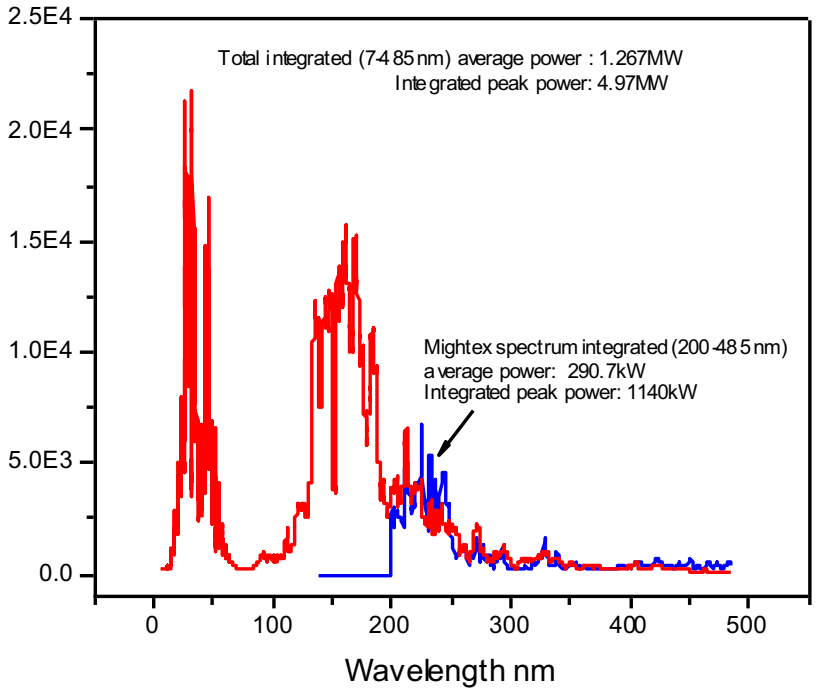




Optical Power Measurement Using NIST Standards Over 10-800 nm Region: Spectral Emission in the High Energy Region Only

Validated Hydrino Reaction's Extraordinary High-Energy Continuum Light and Optical Power at over 1,000,000W Levels



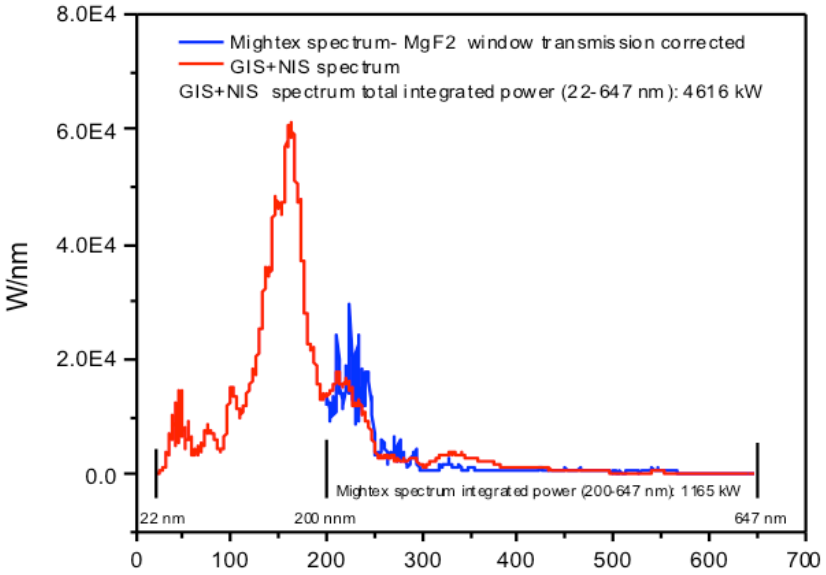


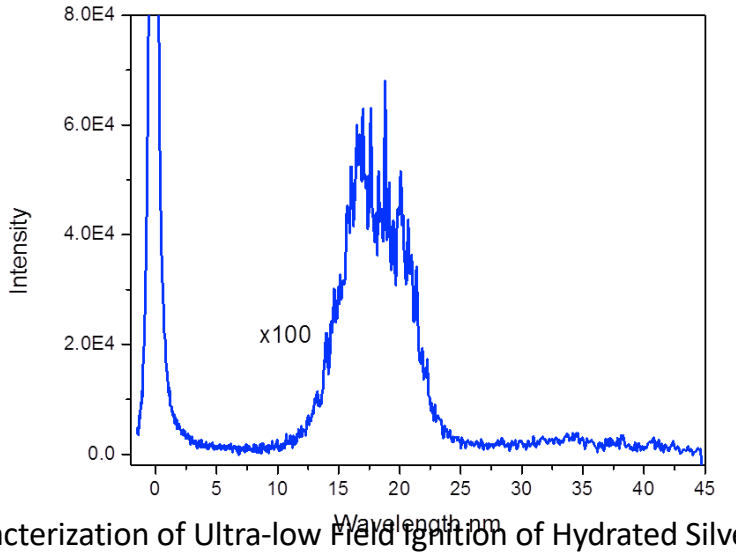
4.6 MW Characteristic H to $H_2(1/4)$ Transition EUV Continuum Radiation with a Predicted 10.1 nm Cutoff

- Hydrated silver shots comprising a source of H and HOH catalyst were ignited by passing a low voltage, high current through the shot to produce explosive plasma that emitted brilliant light predominantly in the short-wavelength 10 to 300 nm region.

- The peak power of 20 MW and time-average power of 4.6 MW was measured using absolute spectroscopy over the 22.8-647 nm region wherein the optical emission energy was 250 times the applied energy.

- The wavelength calibrated and absolute intensity calibrated spectrum (10-45 nm) of the emission of hydrated silver shots recorded on the GIS with a Zr filter showed the EUV continuum cutoff at 10.1 nm that *matches dark matter emission*.

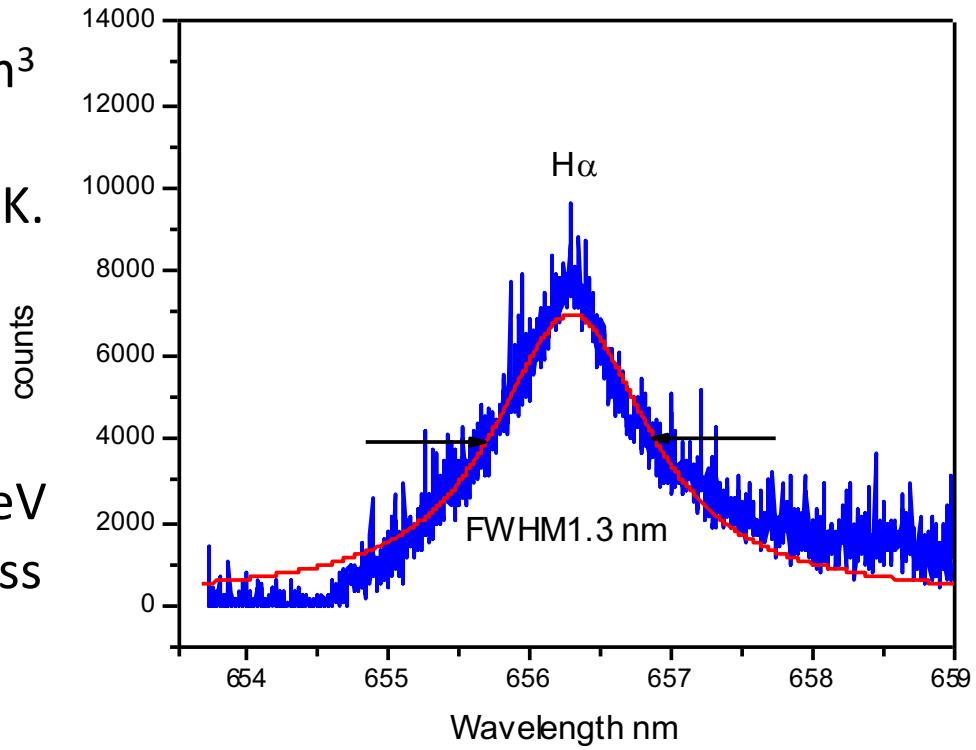




R. Mills, Y. Lu, R. Frazer, "Power Determination and Hydrino Product Characterization of Ultra-low Field Ignition of Hydrated Silver Shots", Chinese Journal of Physics, Vol. 56, (2018), pp. 1667-1717.

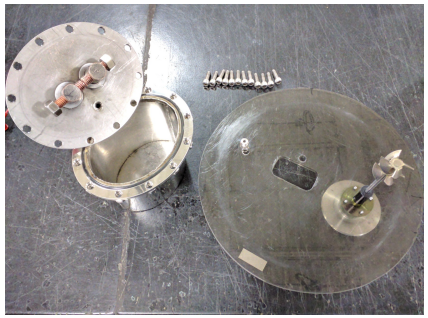
Massive Ionization Determined by Stark Broadening

- Stark broadening of the H alpha line of 1~1.3 nm corresponds to an electron density of 2.4-3.5X10^{23}/m^3.
- The SunCell® gas density was calculated to be 2.5X10^{25} atoms/m^3 based on an argon-H_2 pressure of 800 Torr and temperature of 3000K.
- The corresponding ionization fraction was about 10%.
- Given that argon and H_2 have ionization energies of about 15.5 eV and a recombination lifetime of less than 100 us at high pressure, the power density to sustain the ionization is

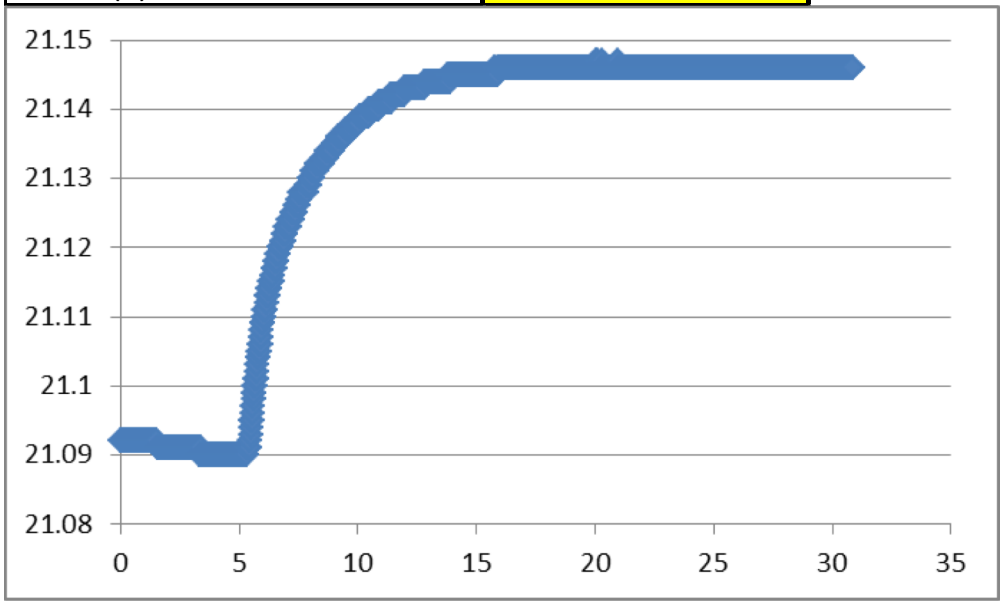


$$P = \left(\frac{3.5X10^{23}\,electrons}{m^3}\right)(15.5\,eV)\left(\frac{1.6X10^{-19}\,J}{eV}\right)\left(\frac{1}{10^{-4}\,s}\right) = \frac{8.7X10^{9}\,W}{m^3}$$

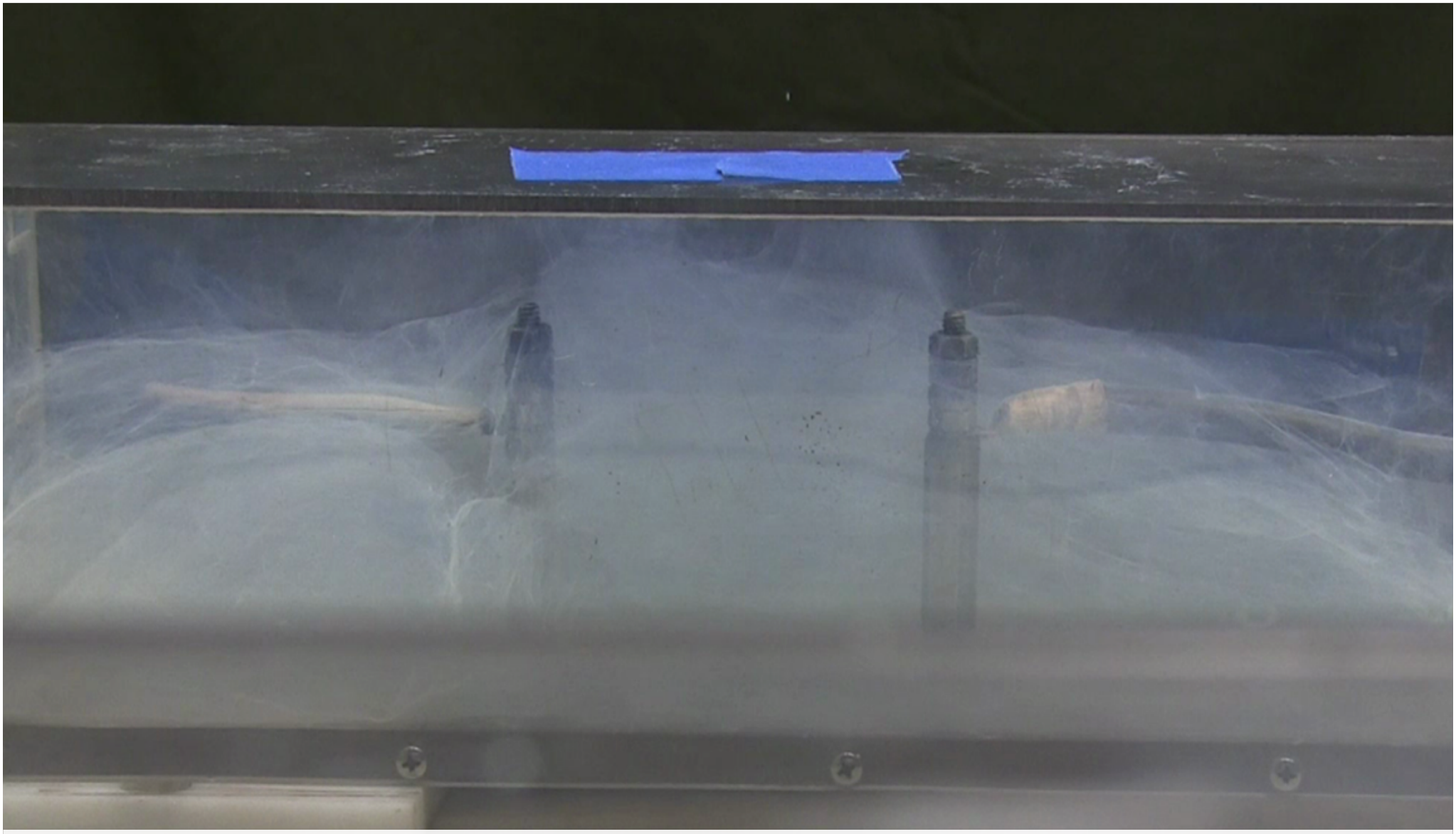
Commercial Parr Water Bath Calorimetry on Hydrated Silver Shot Detonation



Parr Analysis	
Total Temp Rise (oC)	0.056
60% Temp Rise	0.0336
Temp of 60% T Rise, tb	21.1236
Time of 60% T Rise, b	7.016666667
Firing Temp, Ta	21.09
Firing Time, a	5.116666667
Heat End Temp, Tc	21.146
Heat End Time, c	16.58333333
r1	-0.000511272
r2	-1.17582E-06
dT=Tc - Ta - r1*(b-a)-r2*(c-b)	0.056982665
Cp	12300
Eout =Cp*dT (J)	700.89
Ein (J)	189.00
dE (J)	511.89
Excess (X)	3.71

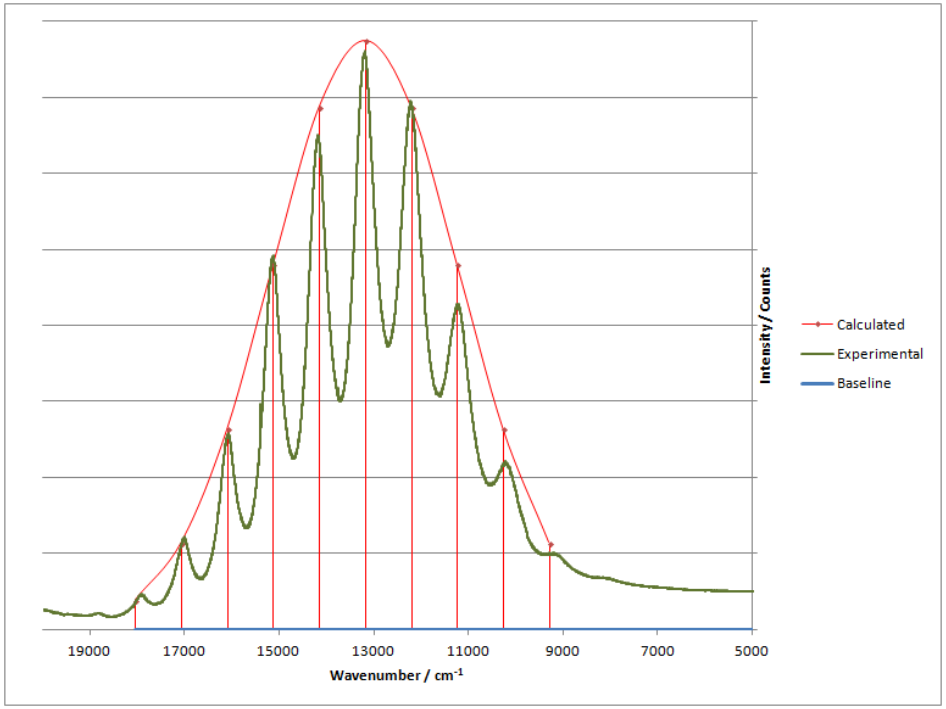


Validated Hydrino Reaction Power at over 100,000W Levels



Novel Hydrino Compounds

Methods for measuring Hydrino® product



- GUT
- Molecular modeling
- H(1/2) and H(1/4) hydrino transitions observed by continuum radiation
- Astronomy data verifying hydrinos such as H(1/2), H(1/3), and H(1/4) hydrino transitions
- H (1/4) spin-nuclear hyperfine transition
- Hydrino trapped on witness plates and in alkali halide-hydride crystals
- Polymeric molecular hydrino compounds
- In situ H_2 (1/4) gas synthesis in argon and analysis

- H_2 (1/4) ro-vib spectrum in crystals by e-beam excitation emission spectroscopy
- H_2 (1/4) X-ray photoelectron spectroscopy (XPS) binding energy
- H_2 (1/4) Fourier Transform Infrared (FTIR)
- H_2 (1/4) Inverse Raman effect (IRE)
- H_2 (1/4) Photoluminescence spectroscopy
- Electron Paramagnetic Resonance Spectroscopy (EPR)
- Time of Flight Secondary Ion Mass Spectroscopy (ToF-SIMs) and Electrospray Ionization Time of Flight (ESI-ToF) identification of hydrino compounds
- MAS H NMR
- Thermogravimetric analysis (TGA)
- Cryogenic gas chromatography
- Fast H in plasma including microwave and rt-plasmas
- Rt-plasma with filament and discharge
- Afterglow
- Highly pumped states
- H inversion
- Commercial differential scanning calorimetric (DSC) and water flow calorimetry with multiple solid fuels chemistries
- Arbin-Instrument measured electricity gain over theoretical in CIHT cells
- SunCell® fully ionized energetic plasma and electromagnetic pulse
- 20 MW extreme ultraviolet NIST-calibrated optically measured power in shot blasts
- Commercial bomb calorimetry of energetic shots
- Shock wave 10X TNT

Identification of Molecular Hydrino by the Gold Standard: Rotational Energies that Match the Predicted p^2 Energies of H_2 Using Exact Closed-Form Solutions of H_2^+ and H_2

The Laplacian in ellipsoidal coordinates is solved with the constraint of nonradiation

$$(\eta-\zeta)R_\xi\frac{\partial}{\partial\xi}(R_\xi\frac{\partial\varphi}{\partial\xi})+(\zeta-\xi)R_\eta\frac{\partial}{\partial\eta}(R_\eta\frac{\partial\varphi}{\partial\eta})+(\xi-\eta)R_\zeta\frac{\partial}{\partial\zeta}(R_\zeta\frac{\partial\varphi}{\partial\zeta})=0$$

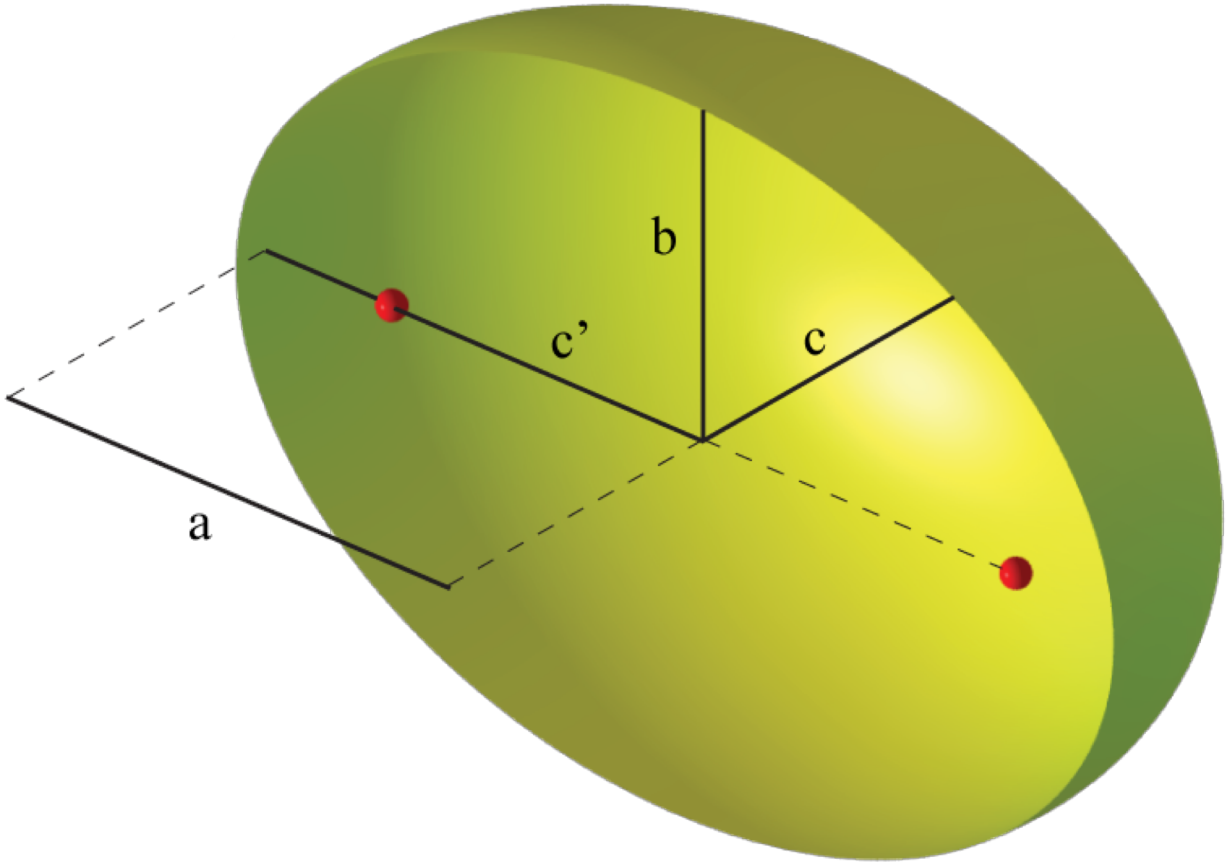
The total energy of the hydrogen molecular ion having a central field of $+pe$ at each focus of the prolate spheroid molecular orbital

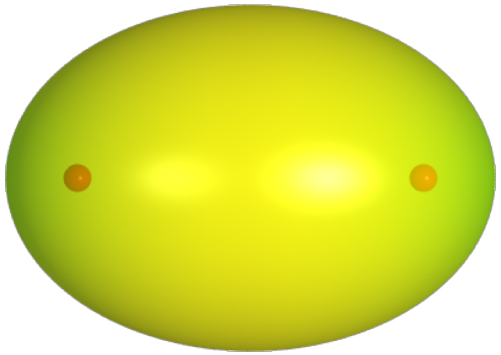
$$E_T=-p^2\left\{\frac{e^2}{8\pi\varepsilon_o a_{\mathrm{H}}}(4\ln 3-1-2\ln 3)\left[1+\sqrt{\frac{2\hbar\sqrt{\frac{2e^2}{4\pi\varepsilon_o\left(2a_{\mathrm{H}}\right)^3}}{m_e}}{m_e c^2}}\right]-\frac{1}{2}\hbar\sqrt{\frac{k}{\mu}}\right\}=-p^2 16.13392\ eV-p^3 0.118755\ eV$$

The total energy of the hydrogen molecule having a central field of $+pe$ at each focus of the prolate spheroid molecular orbital

$$E_T=-p^2\left\{\frac{e^2}{8\pi\varepsilon_o a_0}\left[\left(2\sqrt{2}-\sqrt{2}+\frac{\sqrt{2}}{2}\right)\ln\frac{\sqrt{2}+1}{\sqrt{2}-1}-\sqrt{2}\right]\left[1+p\sqrt{\frac{2\hbar\sqrt{\frac{e^2}{4\pi\varepsilon_o a_0^3}}{m_e}}{m_e c^2}}\right]-\frac{1}{2}\hbar\sqrt{\frac{k}{\mu}}\right\}=-p^2 31.351\ eV-p^3 0.326469\ eV$$

The Nature of the Chemical Bond of Hydrogen cont'd





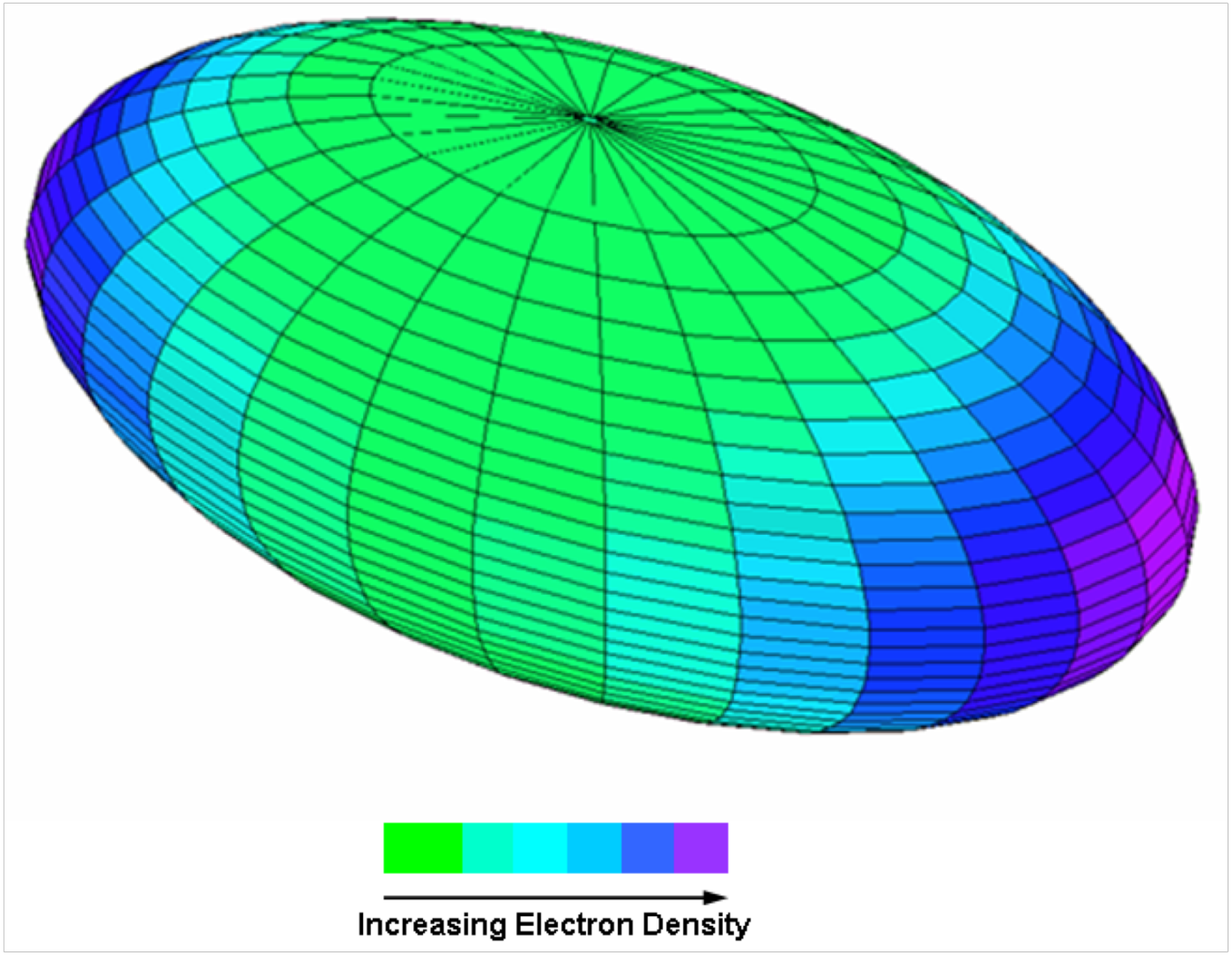
Front view

The Internuclear Distance, $2c'$, which is the distance between the foci is $2c' = \sqrt{2}a_o$.

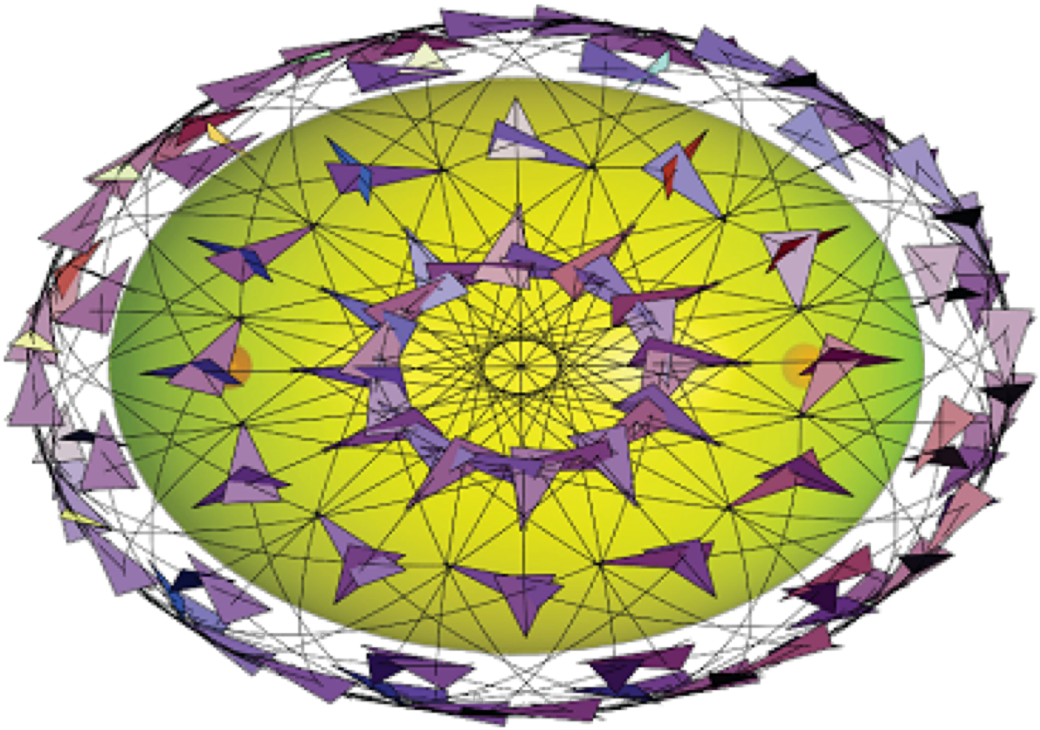
The experimental internuclear distance is $\sqrt{2}a_o$.

The Semiminor Axis, *b*, is $b = \frac{1}{\sqrt{2}} a_o$ The Eccentricity, *e*, is $e = \frac{1}{\sqrt{2}}$

Charge-Density Function



Molecular Orbital Current Corresponding to Electron Spin s=1/2



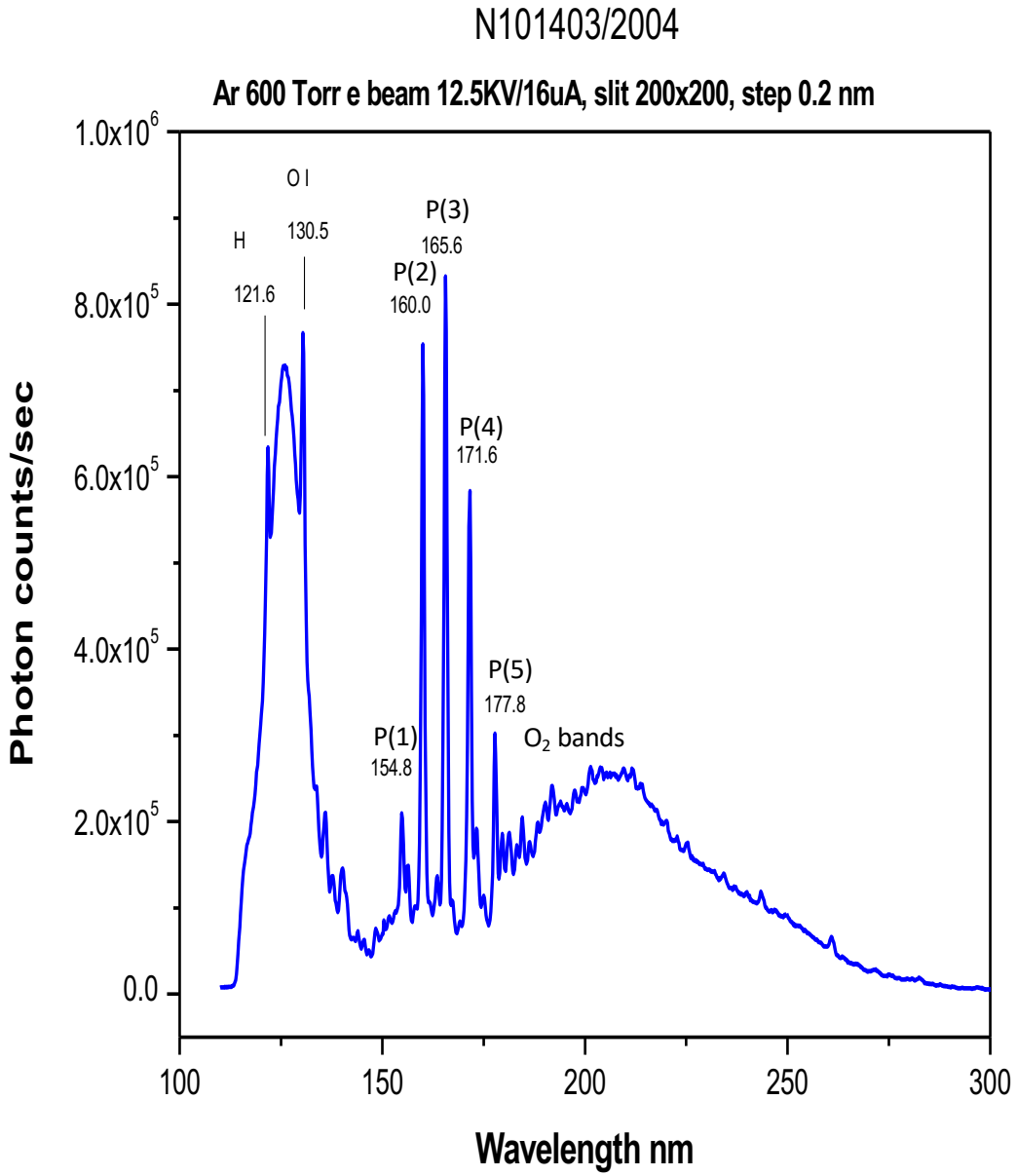
A representation of the z-axis view of the continuous charge-density and supercurrent-density distributions of the MO with 144 vectors overlaid giving the direction of the currents (nuclei not to scale).

The calculated and experimental parameters of H_2, H_2^+, D_2, and D_2^+

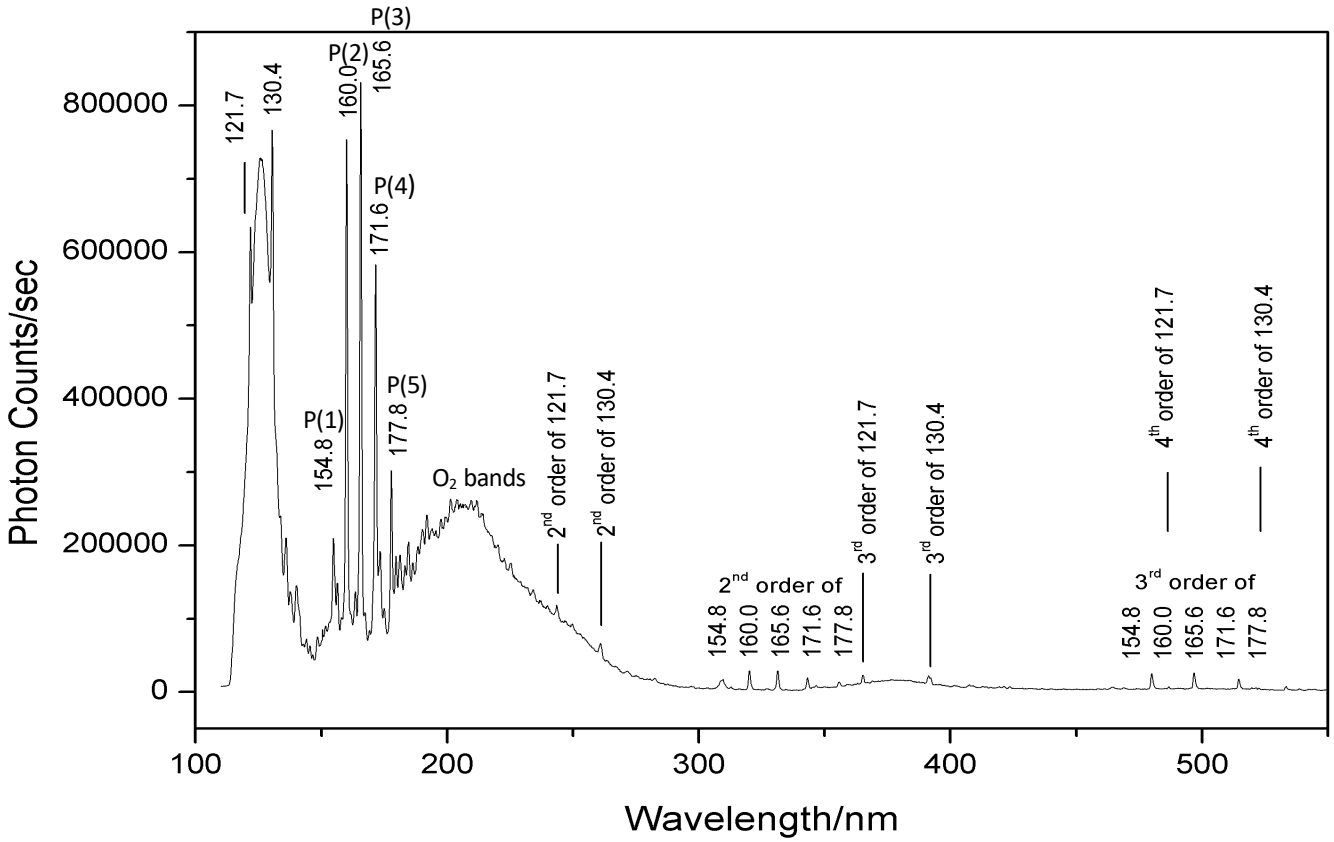
Parameter	Calculated	Experimental	Eqs.	Ref. for Exp.
H_2 Bond Energy	4.478 eV	4.478 eV	11.300	24
D_2 Bond Energy	4.556 eV	4.556 eV	11.302	24
H_2^+ Bond Energy	2.654 eV	2.651 eV	11.269	24
D_2^+ Bond Energy	2.696 eV	2.691 eV	11.271	25
H_2 Total Energy	31.677 eV	31.675 eV	11.296	24, 30, 19[a]
D_2 Total Energy	31.760 eV	31.760 eV	11.297	20, 25[b]
H_2 Ionization Energy	15.425 eV	15.426 eV	11.298	30
D_2 Ionization Energy	15.463 eV	15.466 eV	11.299	25
H_2^+ Ionization Energy	16.253 eV	16.250 eV	11.267	24, 19[c]
D_2^+ Ionization Energy	16.299 eV	16.294 eV	11.268	20, 25[d]
H_2^+ Spin Magnetic Moment	$\frac{\mu_B}{2}$	$\frac{\mu_B}{2}$	12.24	31
Absolute H_2 Gas-Phase NMR Shift	-28.0 ppm	-28.0 ppm	11.416	32-33
H_2 Quadrupole Moment	0.4764 X 10^{-16} cm^2	0.38 ± 0.15 X 10^{-16} cm^2	11.430-11.431	46
H_2 Internuclear Distance[e]	0.748 Å $\sqrt{2}a_o$	0.741 Å	11.287	34
D_2 Internuclear Distance[e]	0.748 Å $\sqrt{2}a_o$	0.741 Å	11.287	34
H_2^+ Internuclear Distance[f]	1.058 Å $2a_o$	1.06 Å	11.256	24
D_2^+ Internuclear Distance[e]	1.058 Å $2a_o$	1.0559 Å	11.256	25
H_2 Vibrational Energy	0.517 eV	0.516 eV	11.308	27, 28
D_2 Vibrational Energy	0.371 eV	0.371 eV	11.313	14, 20
H_2 $\omega_e x_e$	120.4 cm^{-1}	121.33 cm^{-1}	11.310	25
D_2 $\omega_e x_e$	60.93 cm^{-1}	61.82 cm^{-1}	11.314	20
H_2^+ Vibrational Energy	0.270 eV	0.271 eV	11.277	14, 20
D_2^+ Vibrational Energy	0.193 eV	0.196 eV	11.281	20
H_2 J=1 to J=0 Rotational Energy	0.0148 eV	0.01509 eV	12.74	24
D_2 J=1 to J=0 Rotational Energy	0.00741 eV	0.00755 eV	12.66-12.74	24
H_2^+ J=1 to J=0 Rotational Energy	0.00740 eV	0.00739 eV	12.78	24
D_2^+ J=1 to J=0 Rotational Energy	0.00370 eV	0.003723 eV	12.66-12.71, 12.78	25

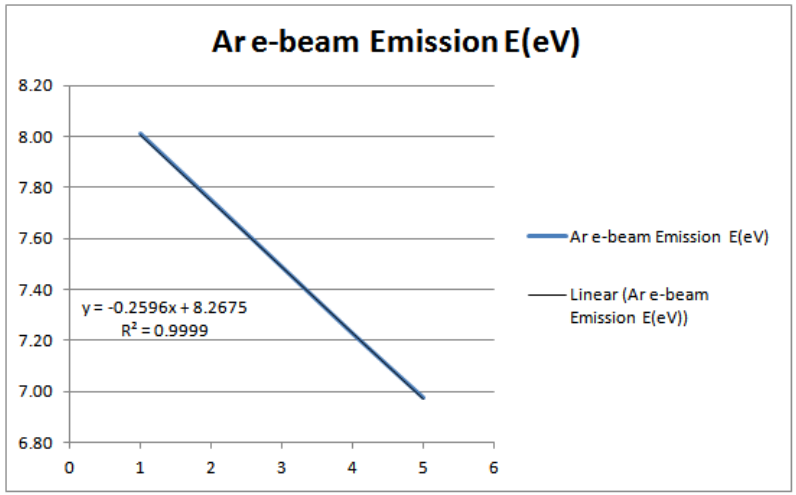
HOH-Argon E-beam Emission
Hydrino $H_2(1/4)$ Ro-vibrational P Branch

Of the noble gases, argon uniquely contains trace hydrino gas due to contamination during purification. Argon and oxygen co-condense during cryo-distillation of air and the oxygen is removed by reaction with hydrogen on a recombination catalyst such as platinum whereby hydrino is formed during the recombination reaction due to the subsequent reaction of HOH catalyst with H. The known peaks are H I, O I, O_2 bands. The unknown peaks match molecule hydrino ($H_2(1/4)$ P branch) with no other unassigned peaks present in the spectrum.



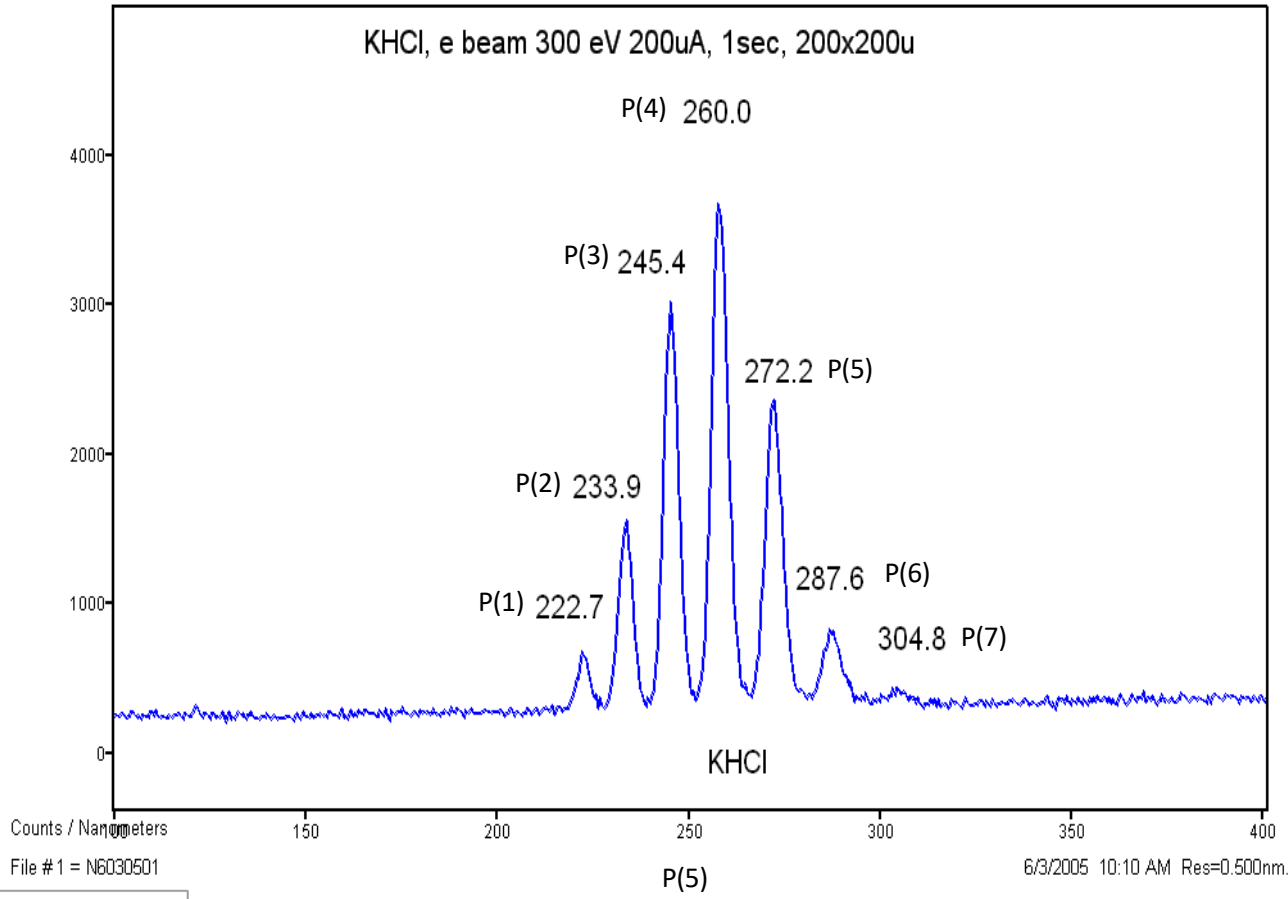
HOH-Argon E-beam Emission Hydrino $H_2(1/4)$ Ro-vibrational P Branch

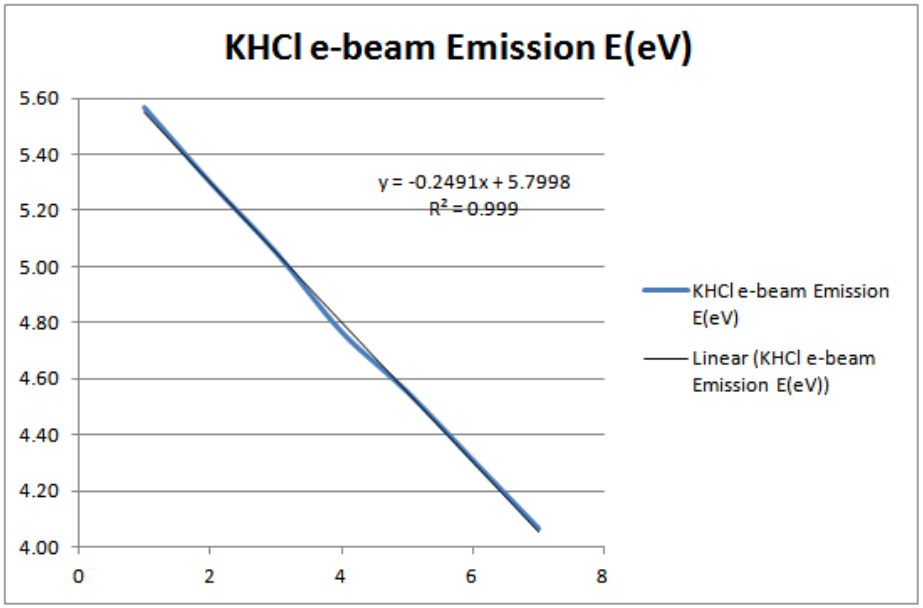




HOH-Argon E-beam Emission Linear Regression

E-beam Emission Hydrino $H_2(1/4)$ Ro-vibrational P Branch





E-beam Emission Linear Regression

Vibrational and Rotational Predicted Energies

• Hydrogen molecular vibrational energy, E_{vib}, for the $v = 0$ to $v = 1$ transition of hydrogen type molecules $H_2(1/p)$ is

$$E_{vib} = p^2 \times 0.515912\ eV$$

• The rotational energies, E_{rot}, for the J to $J+1$ transition of hydrogen molecules $H_2(1/p)$ is

$$E_{rot} = p^2 \times (J+1) \times 0.01509\ eV$$

•The emitters in both HOH-Ar and a solid impregnated with hydrino gas match emission spacing's and match the rotationally predicted energies for $H_2(1/4)$. The emitter in HOH-Ar matches the vibrationally predicted energy for $H_2(1/4)$.

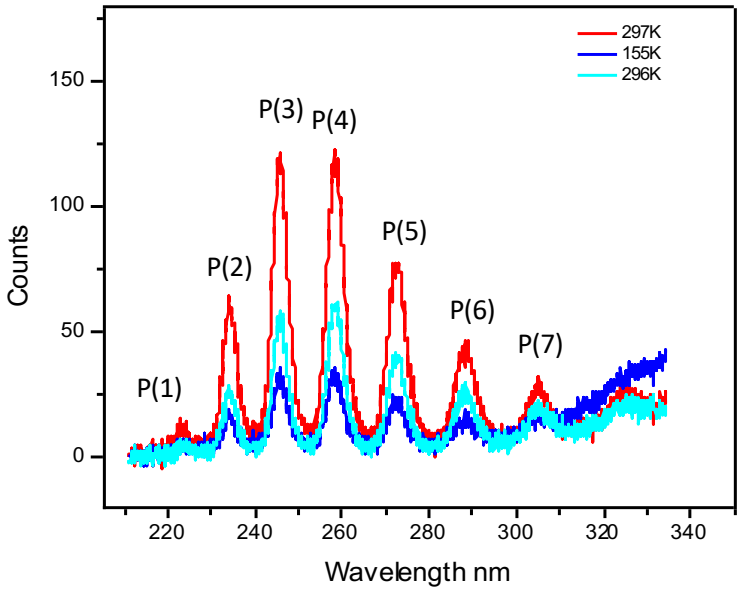
H2(1/4) in Ar	Experimental Value (eV)	Theoretical Value (eV)
Vibrational Energy (v = 0 to 1)	8.2675	8.2544
Rotational Energy (J = 0 to 1)	0.2596	0.2414

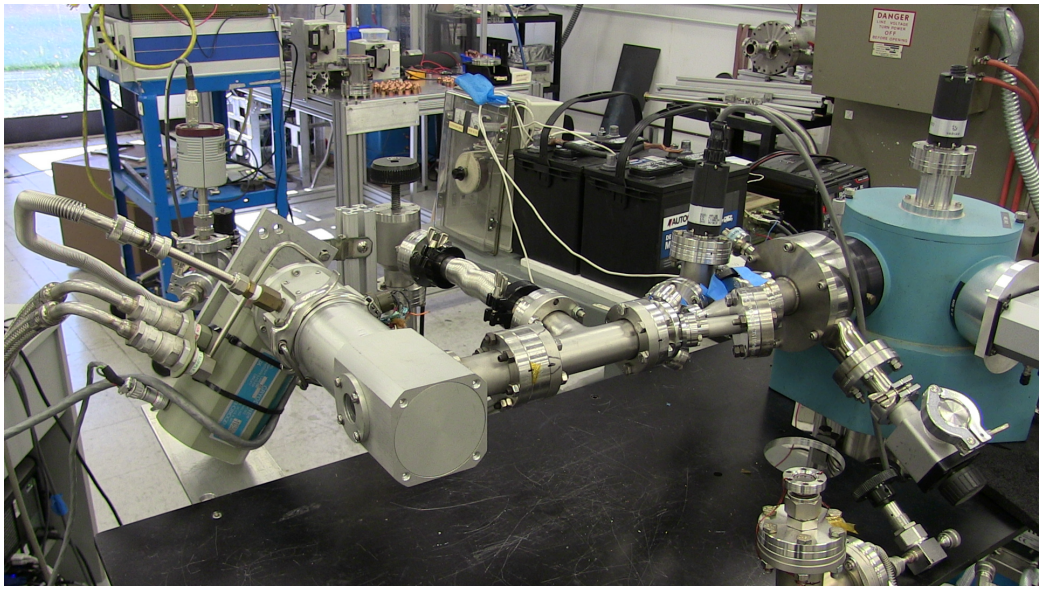
H2(1/4) in KHCl	Experimental Value (eV)	Theoretical Value (eV)
Vibrational Energy (v = 0 to 1)	5.7998	*
Rotational Energy (J = 0 to 1)	0.2491	0.2414

• *The vibrational energy for $H_2(1/4)$ in a solid matrix is shifted due to the increased effective mass from the solid matrix interaction analogous to the cases of H_2 in solid matrices such as Si and Ge as discussed in primary literature.

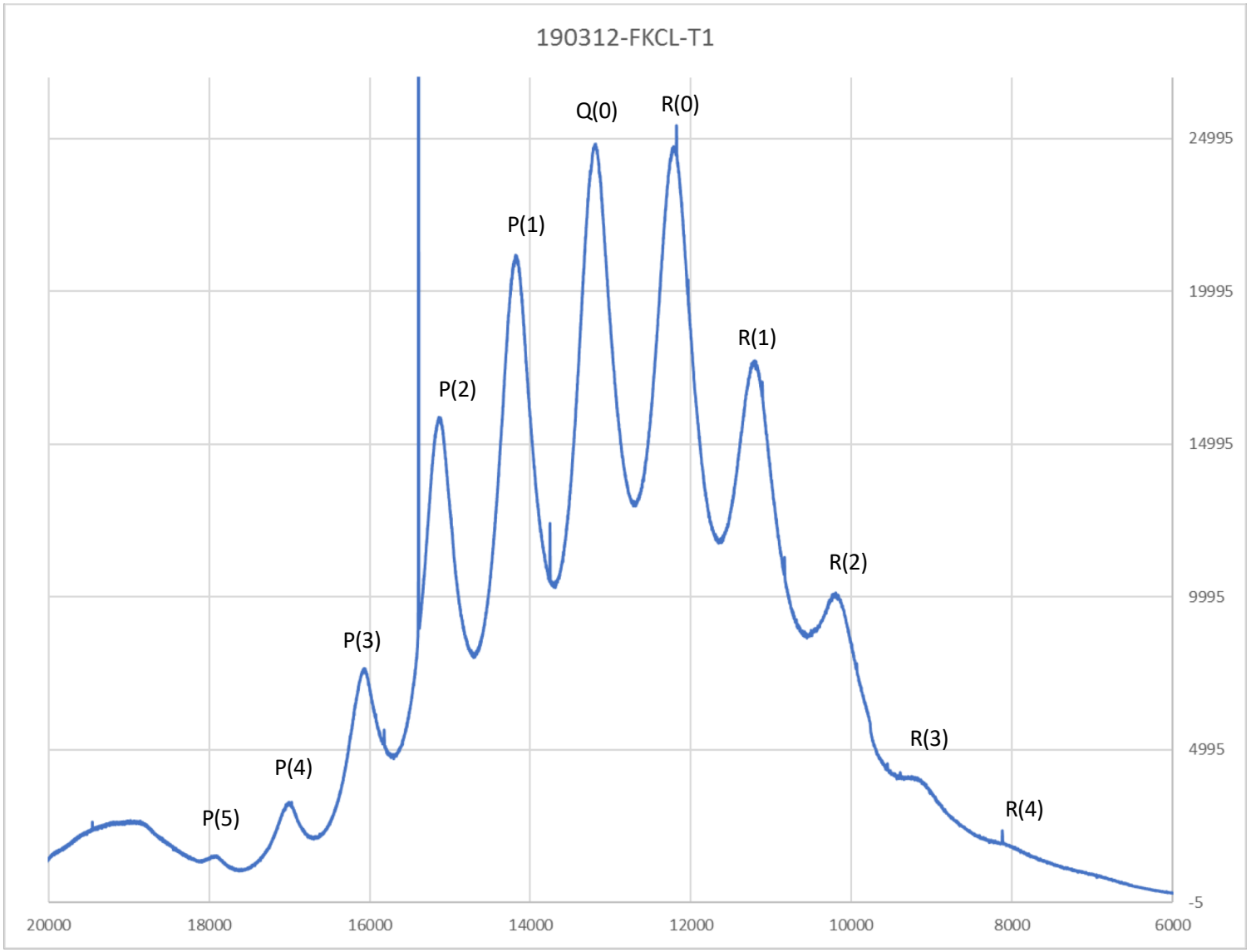
[1]: R. Mills, The Grand Unified Theory of Classical Physics; September 2016 Edition, posted at http://brilliantlightpower.com/book-download-and-streaming/

E-beam Emission
Hydrino $H_2(1/4)$ Ro-vibrational P Branch is Dependent on Temperature which is Confirmation of Ro-Vibrational Assignment





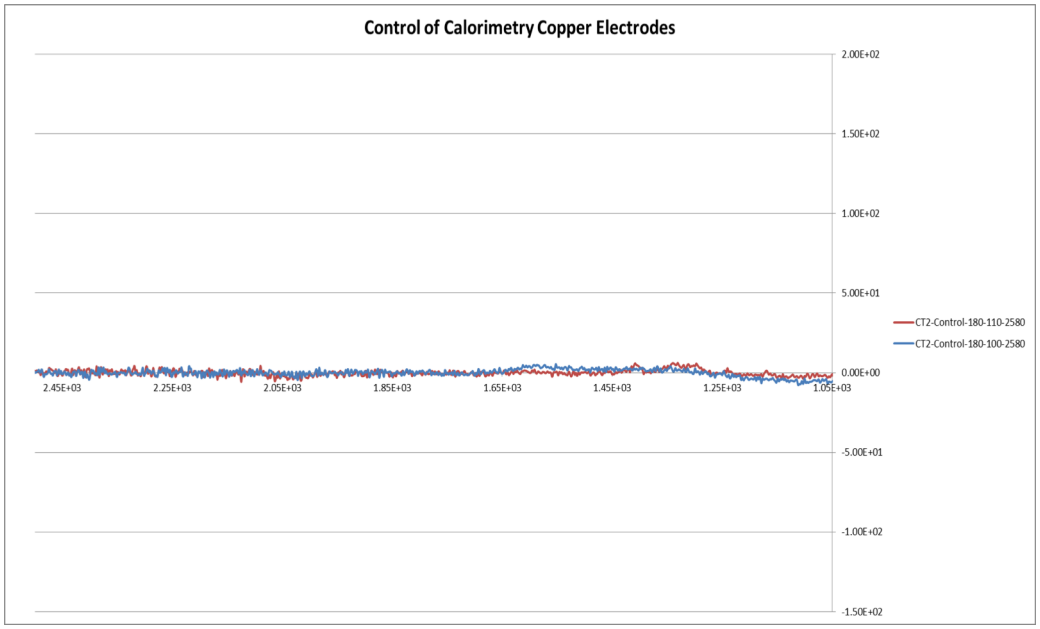
Raman Confirmation of Molecular Hydrino of $H_2(1/4)$ Ro-Vibrational Band

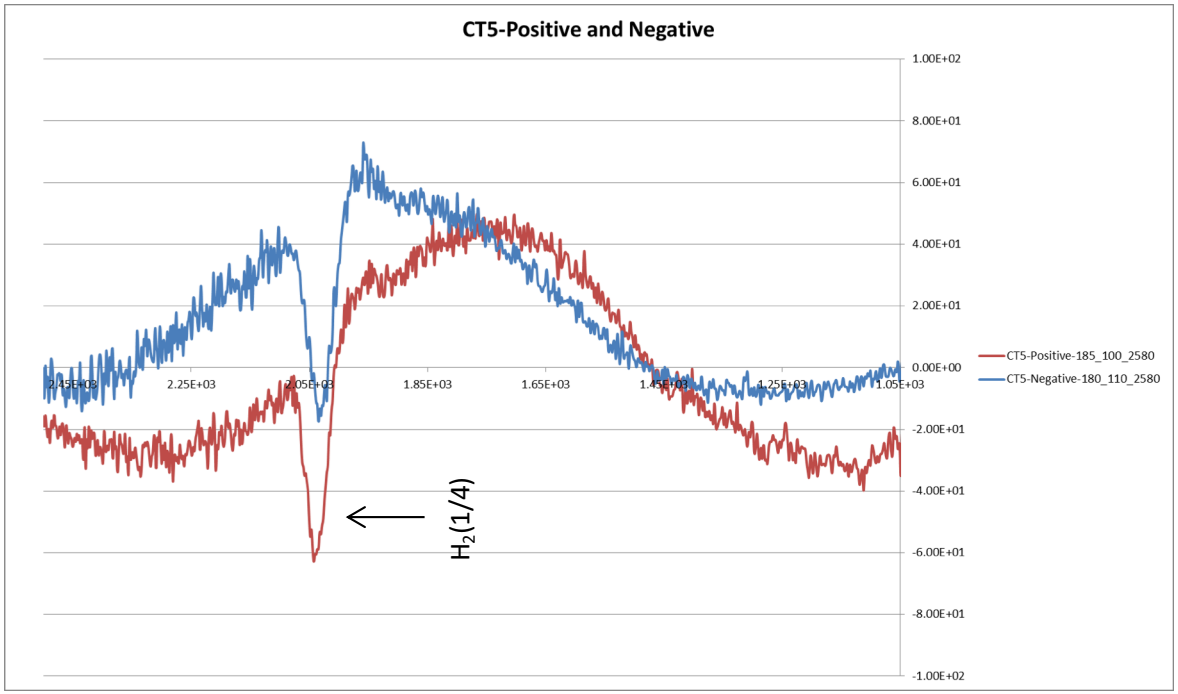


Raman-mode second-order photoluminescence spectrum of the KCl getter exposed to thermal decomposition gas from Ga_2O_3:$H_2(1/4)$ from the SunCell® using a Horiba Jobin Yvon LabRam ARAMIS 325nm laser. The series of peaks matches the theoretical peaks to within an error of less than 1%.

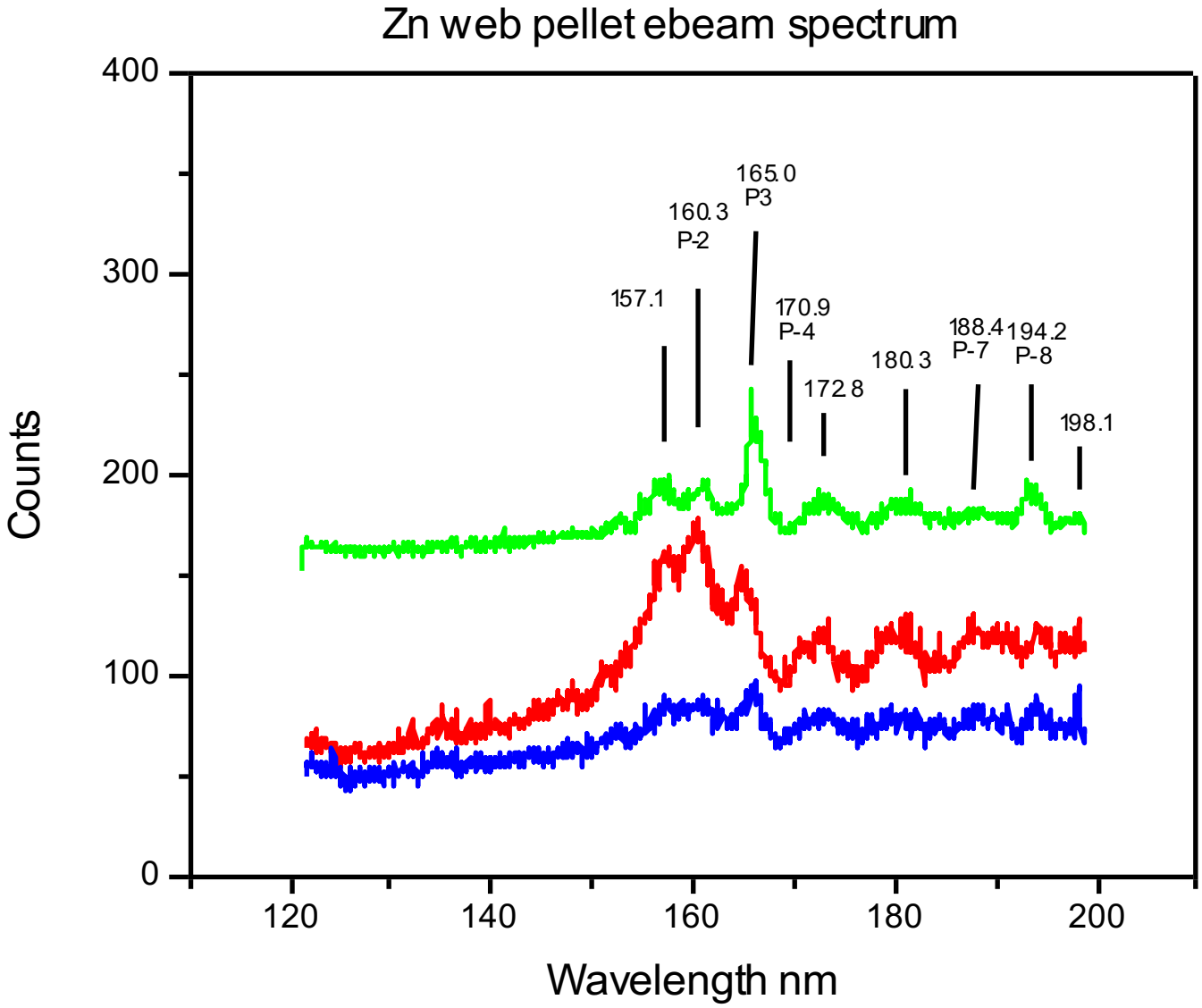
Raman Confirmation of Molecular Hydrino of $H_2(1/4)$ Rotational Energy

Raman spectra obtained using the Thermo Scientific DXR SmartRaman spectrometer and the 780 nm laser on copper electrodes pre and post ignition of a 80 mg silver shot comprising 1 mole% H_2O, wherein the detonation was achieved by applying a 12 V 35,000 A current with a spot welder. The spectra showed an inverse Raman effect peak at about 1940 cm^{-1} that matches the free rotor energy of $H_2(1/4)$ (0.2414 eV).

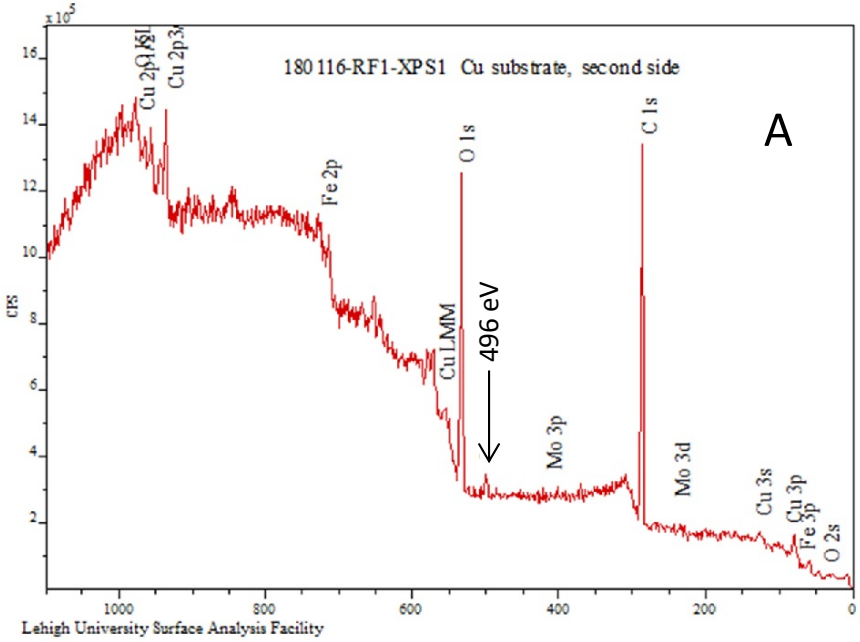


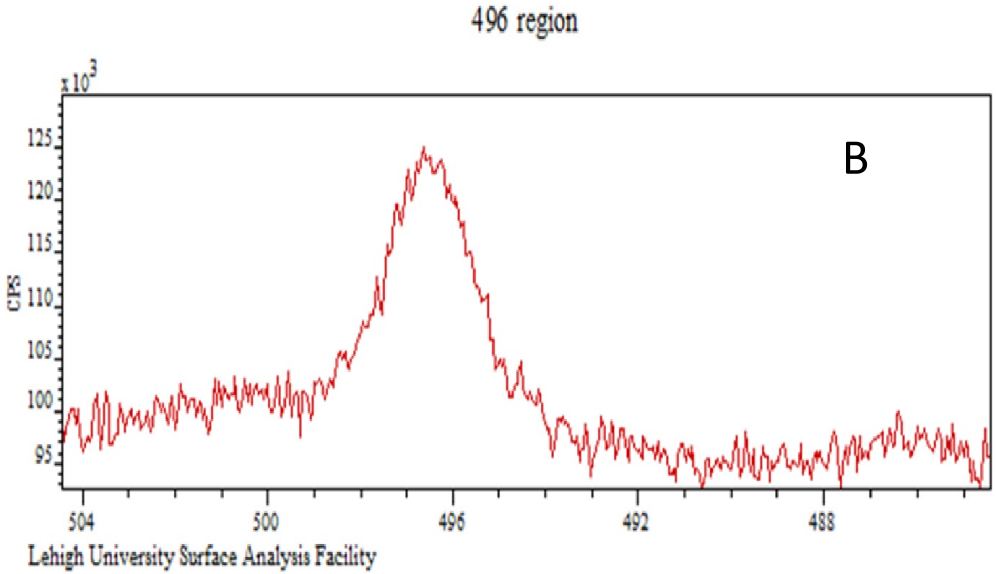


E-beam Emission
Hydrino $H_2(1/4)$ Ro-vibrational P Branch of Web Compound Matches that of Gaseous $H_2(1/4)$ Spectrum



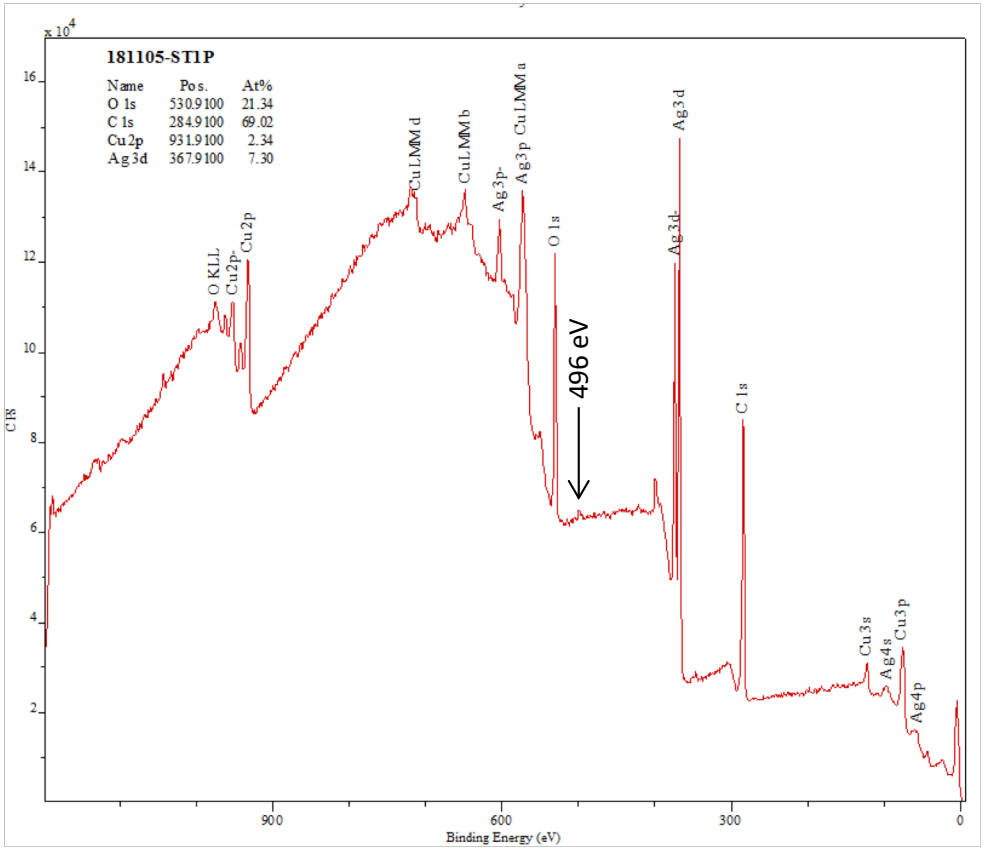
XPS Total Binding Energy of $H_2(1/4)$

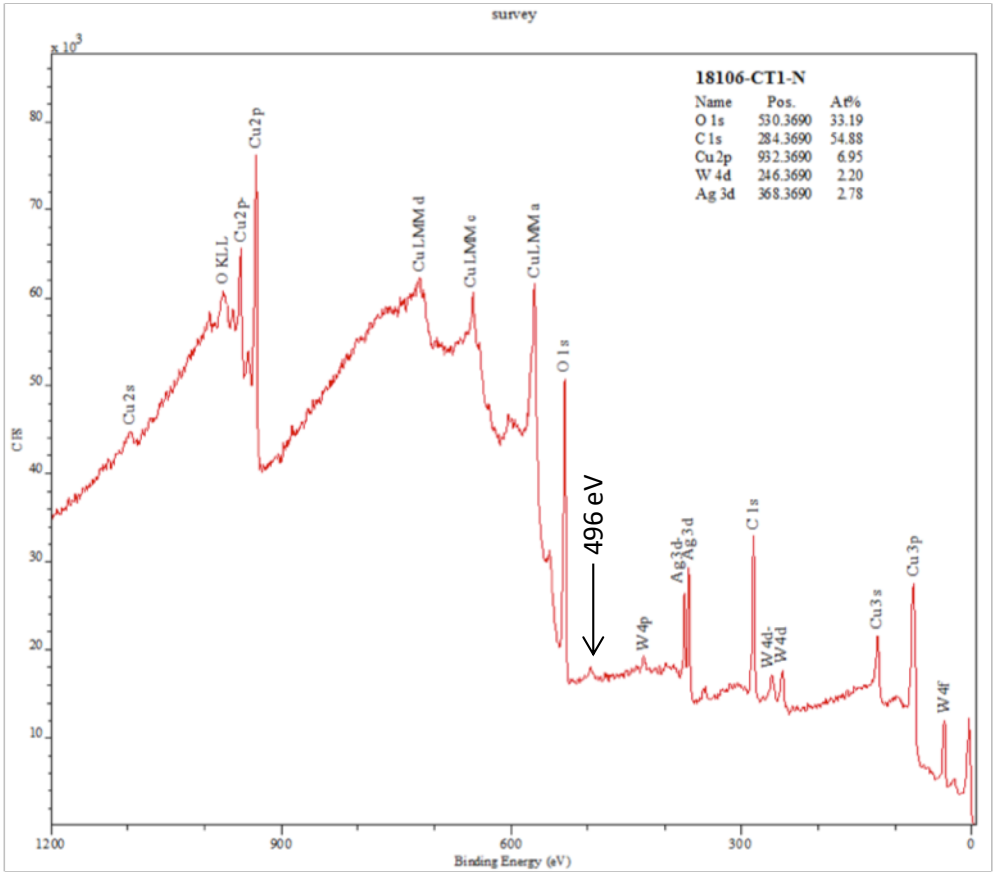




The XPS spectra of the hydrino Mo web compound having a peak at 496 eV assigned to $H_2(1/4)$ wherein other possibilities such Na, Sn, and Zn were eliminated since only Mo, O, and C peaks are present and other peaks of the candidates are absent. Mo 3s which is less intense than Mo3p was at 506 eV with additional samples that also showed the $H_2(1/4)$ 496 eV peak. A. Survey scan. B. High resolution scan in the region of the 496 eV peak of $H_2(1/4)$.

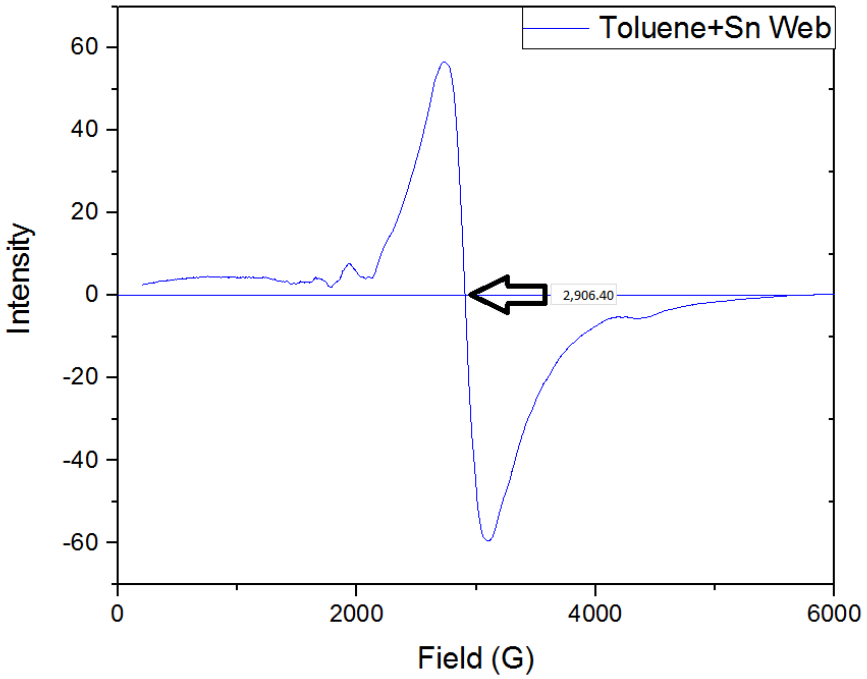
XPS Confirmation of Molecular Hydrino of $H_2(1/4)$ Binding Energy

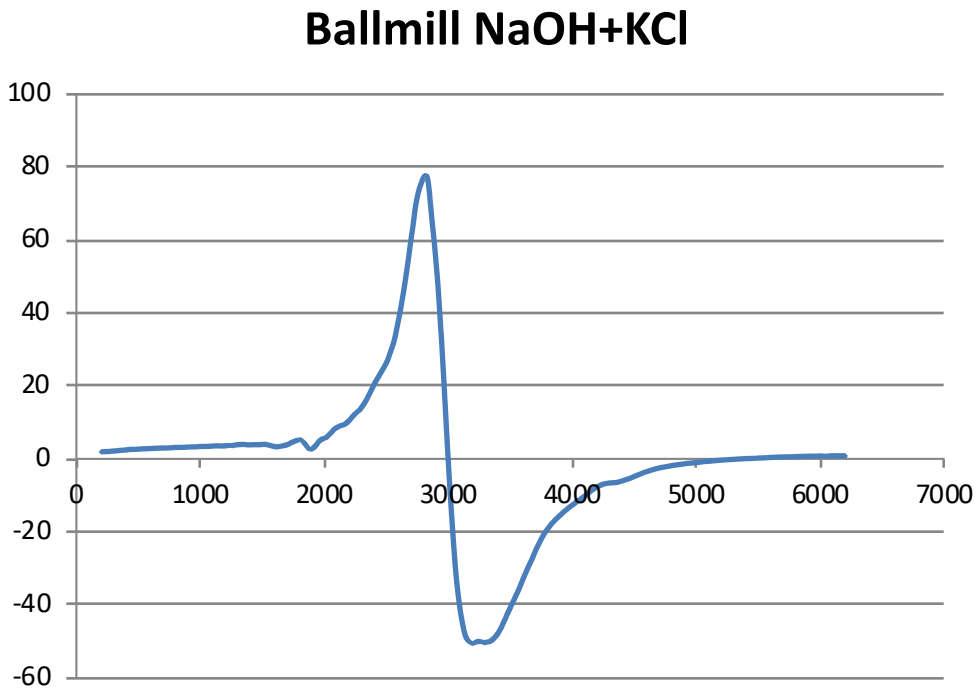




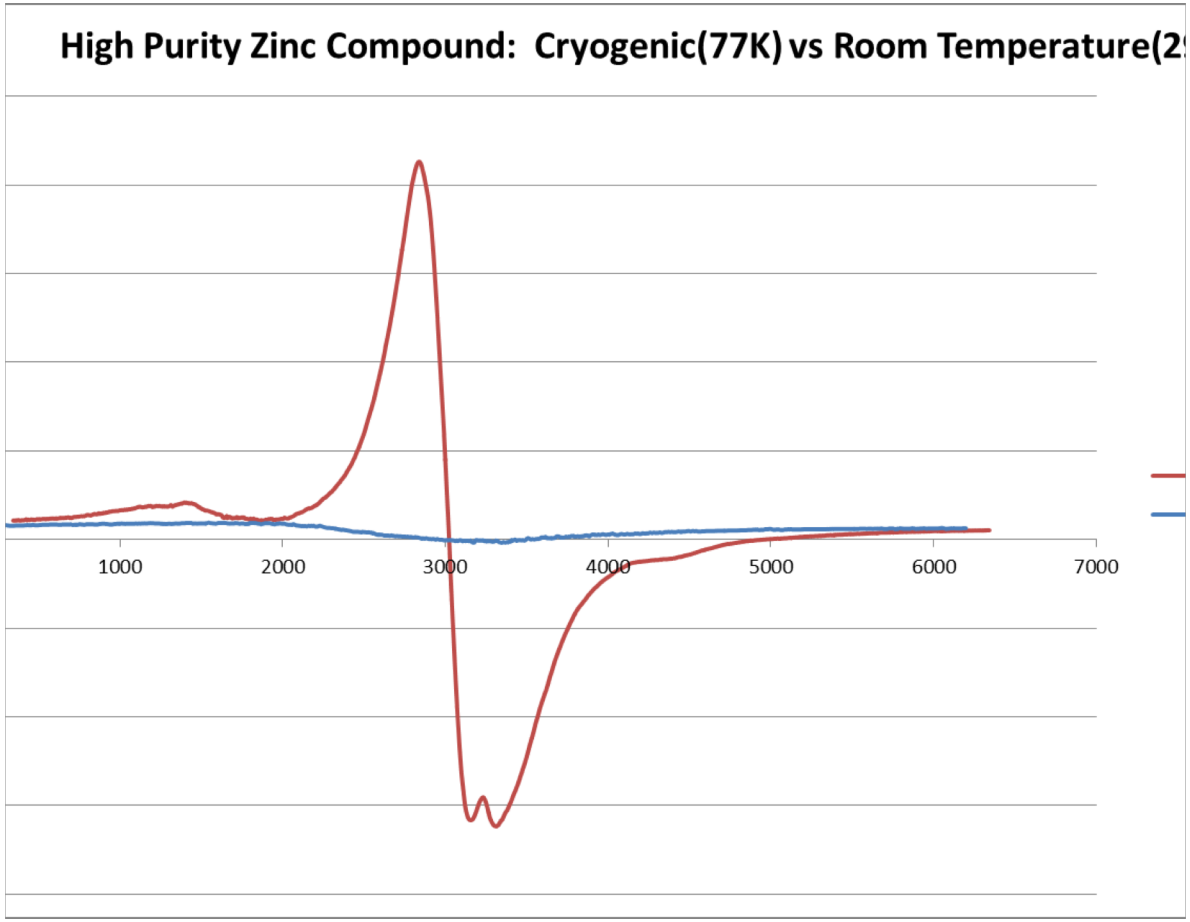
The XPS spectra on copper electrodes post ignition of a 80 mg silver shot comprising 1 mole% H_2O, wherein the detonation was achieved by applying a 12 V 35,000 A current with a spot welder. The peak at 496 eV was assigned to $H_2(1/4)$ wherein other possibilities such Na, Sn, and Zn were eliminated since the corresponding peaks of these candidates are absent. Raman post detonation spectra showed an inverse Raman effect peak at about 1940 cm^{-1} that matches the free rotor energy of $H_2(1/4)$ (0.2414 eV).

Extraordinary EPR Spectrum of Hydrino Web Compound And Solid Fuel Reaction Product





- No known EPR active species present.
- Shift of 474 G matches theoretical, ΔH = 375 G.
- The main parameters of EPR spectrum of tin hydroxyl and superoxide radicals: g-factor and line width ΔH, calculated from the EPR spectra are following: g1 =2.0021 and ΔH1 =1 G, g2 =2.0009 and ΔH2 =0.8 G.

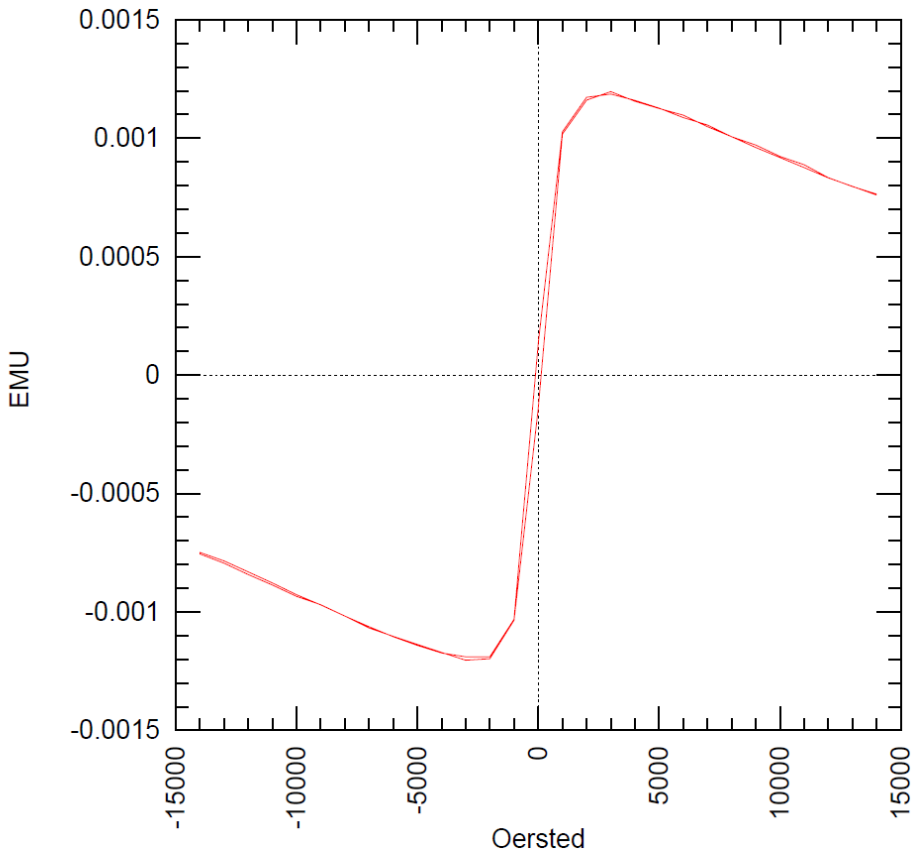


Effect of Cryogenic Temperature on EPR Spectrum of Zinc Hydrino Compound

- The molecular hydrino dimer EPR peak shift of about 474 G was observed at 298K (red trace) and was absent at 77K (blue trace) which is evidence of the predicted hydrino phase change to a compact solid at cryogenic temperatures wherein the magnetism due to dense packing causes the EPR peak to be broadened and out of range.

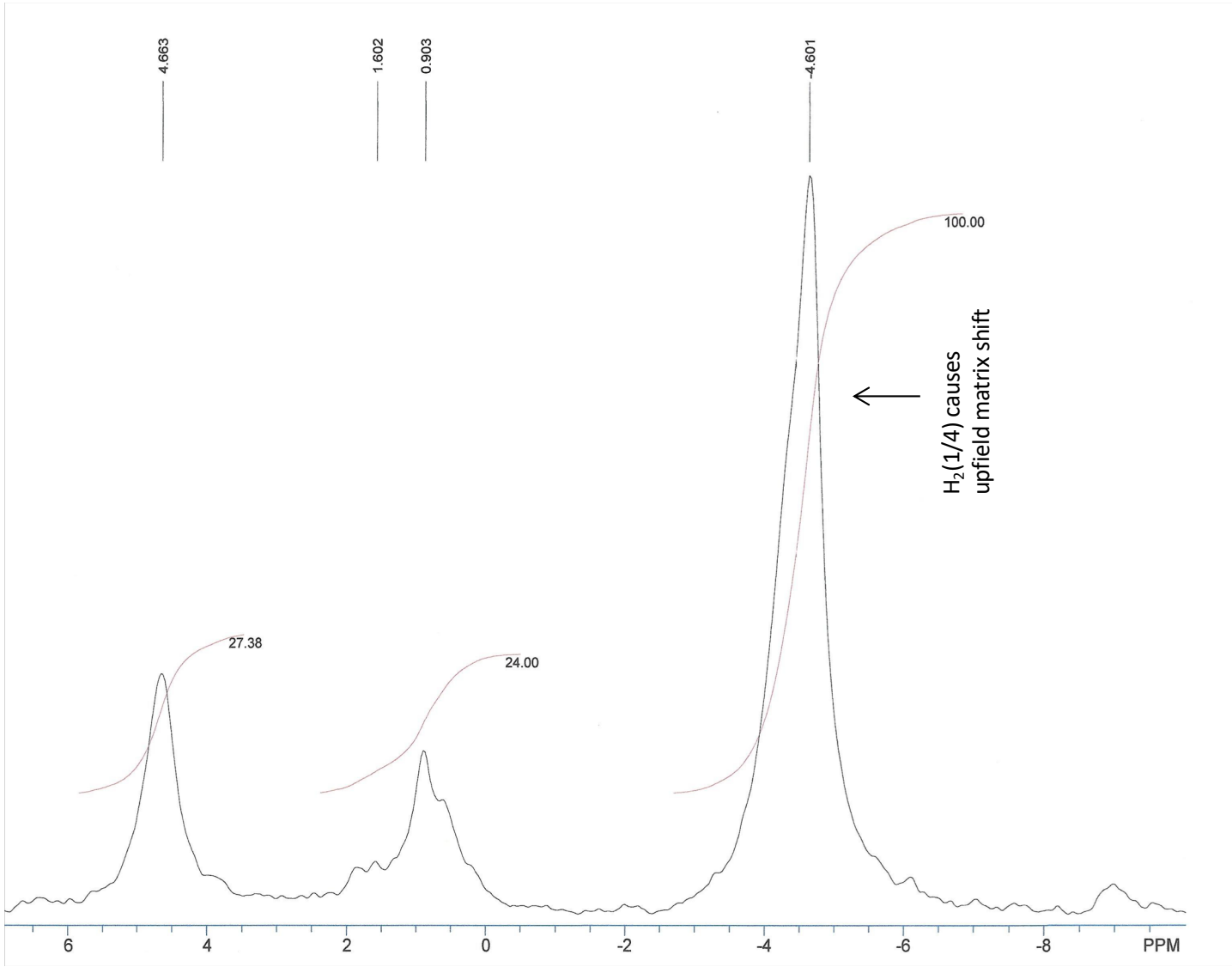
MoWeb: Vibrating Sample Magnetometer

- Paramagnetic material responds linearly with the induced magnetism.
- The observed “S” shape is characteristic of super paramagnetic, a hybrid of ferromagnetism and para magnetism.
- It is exception that the induced magnetism peaks at 5K Oe and declines with higher applied field.

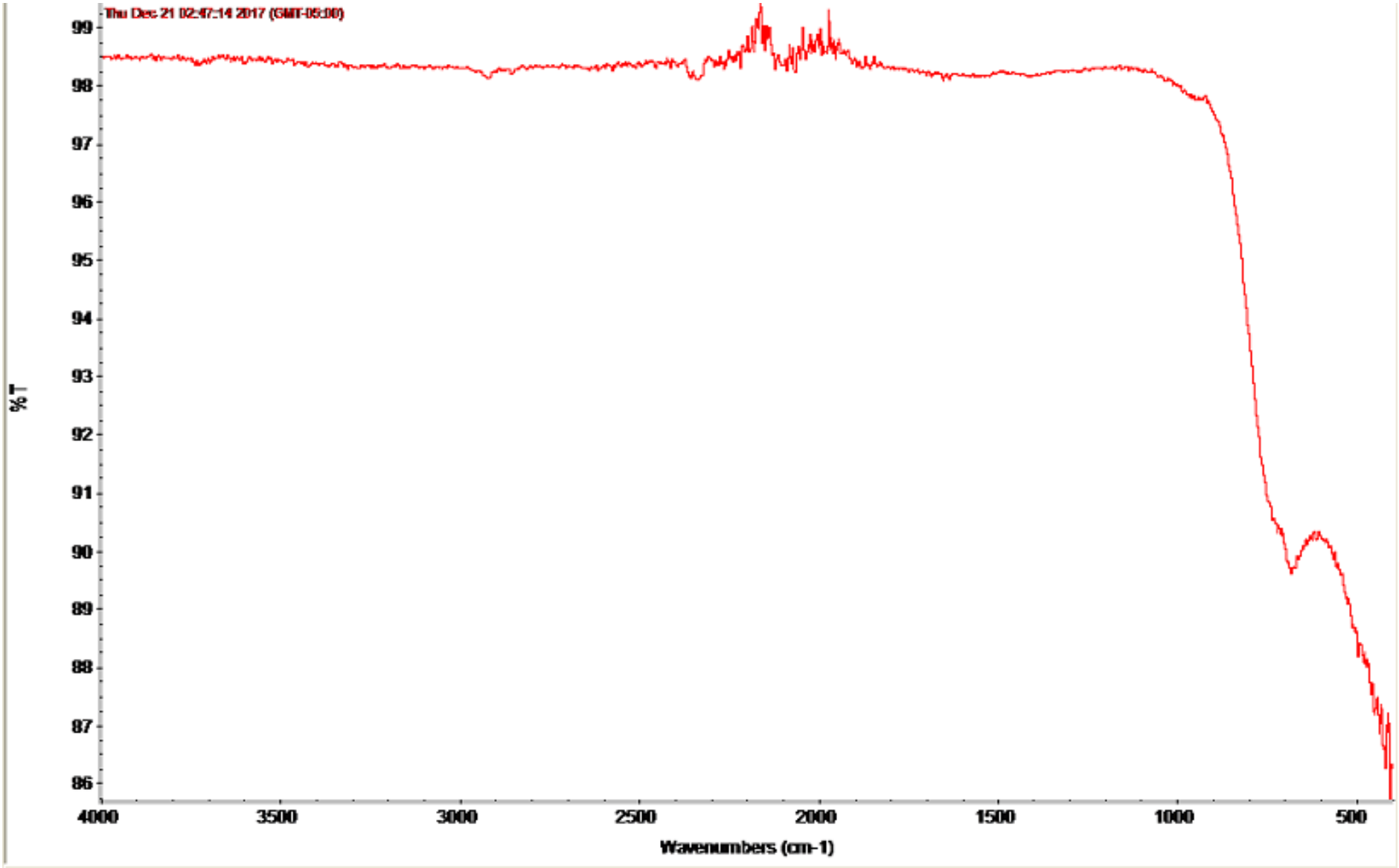


^{1}H MAS NMR Spectra

^{1}H MAS NMR spectrum relative to external TMS of the KCl getter exposed to hydrino gas that shows upfield shifted matrix peak -4.6 ppm due to the magnetism of molecular hydrino.



FTIR of Tungsten Hydrino Web Compound that Shows Only the Hydrino Molecular Dimer $[H_2(1/4)]_2$ Vibrational Band at 720 cm^{-1}

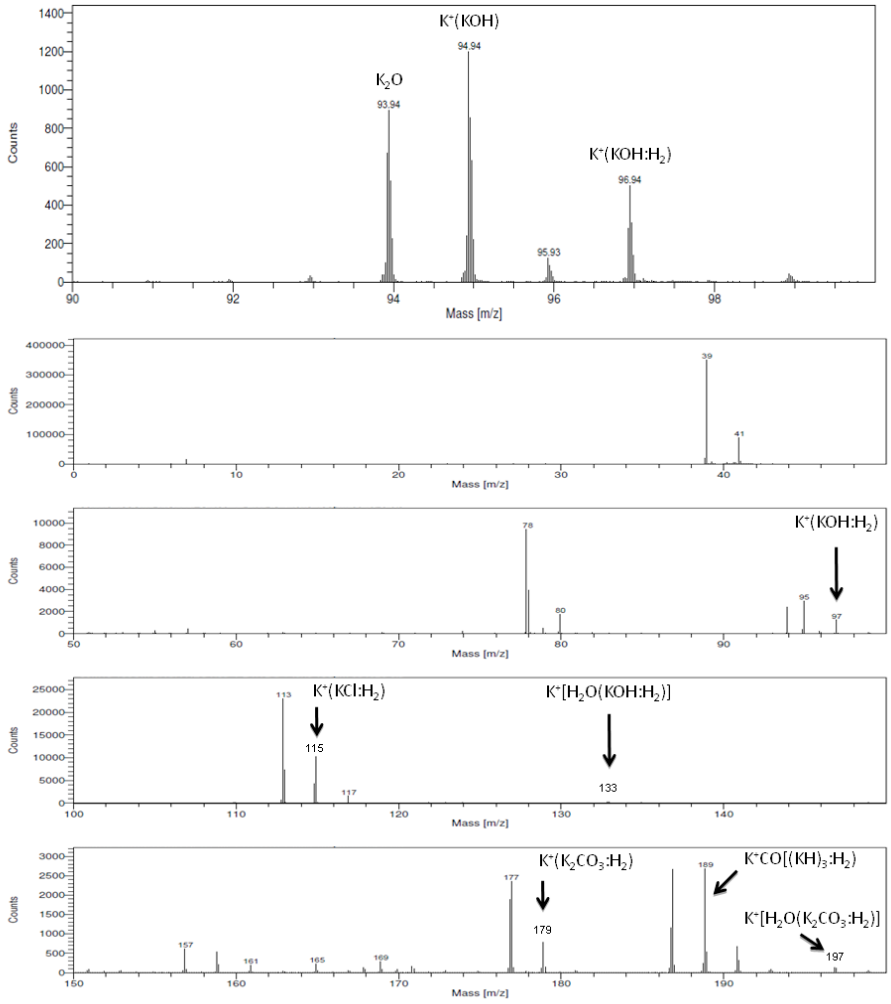


ToF-SIMS Spectrum of K_2CO_3-KCl (30:70 wt%) getter exposed to hydrino gas and having upfield shifted MAS NMR spectral peaks.

Multimer clusters of matrix compounds with di-hydrogen as part of the structure, M:H_2 (M = KOH or K_2CO_3) such as and consistent with $H_2(1/p)$ as a complex in the structure were observed. These clusters were not observed in controls comprising the matrix exposed to H_2.

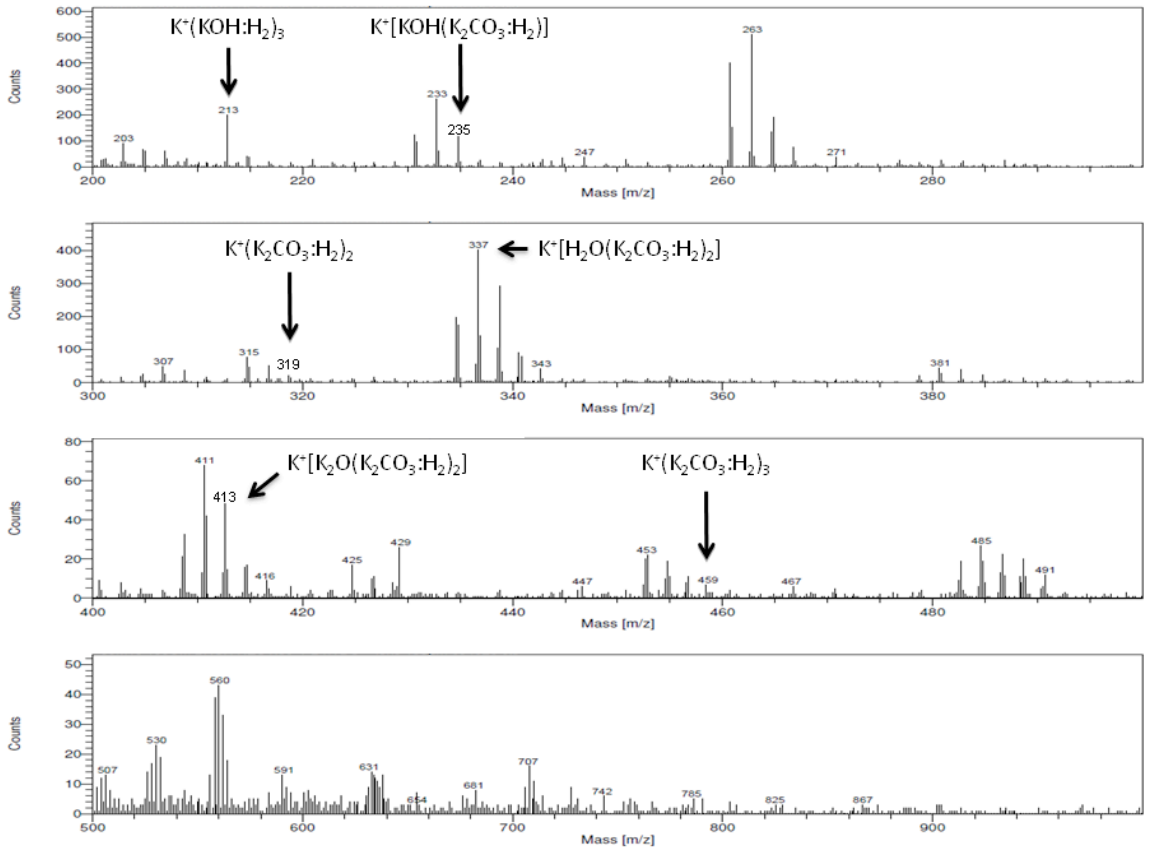
Positive ToF-SIMS, m/e = 90 to 100 region

Positive ToF-SIMS, m/e = 0 to 200 region.



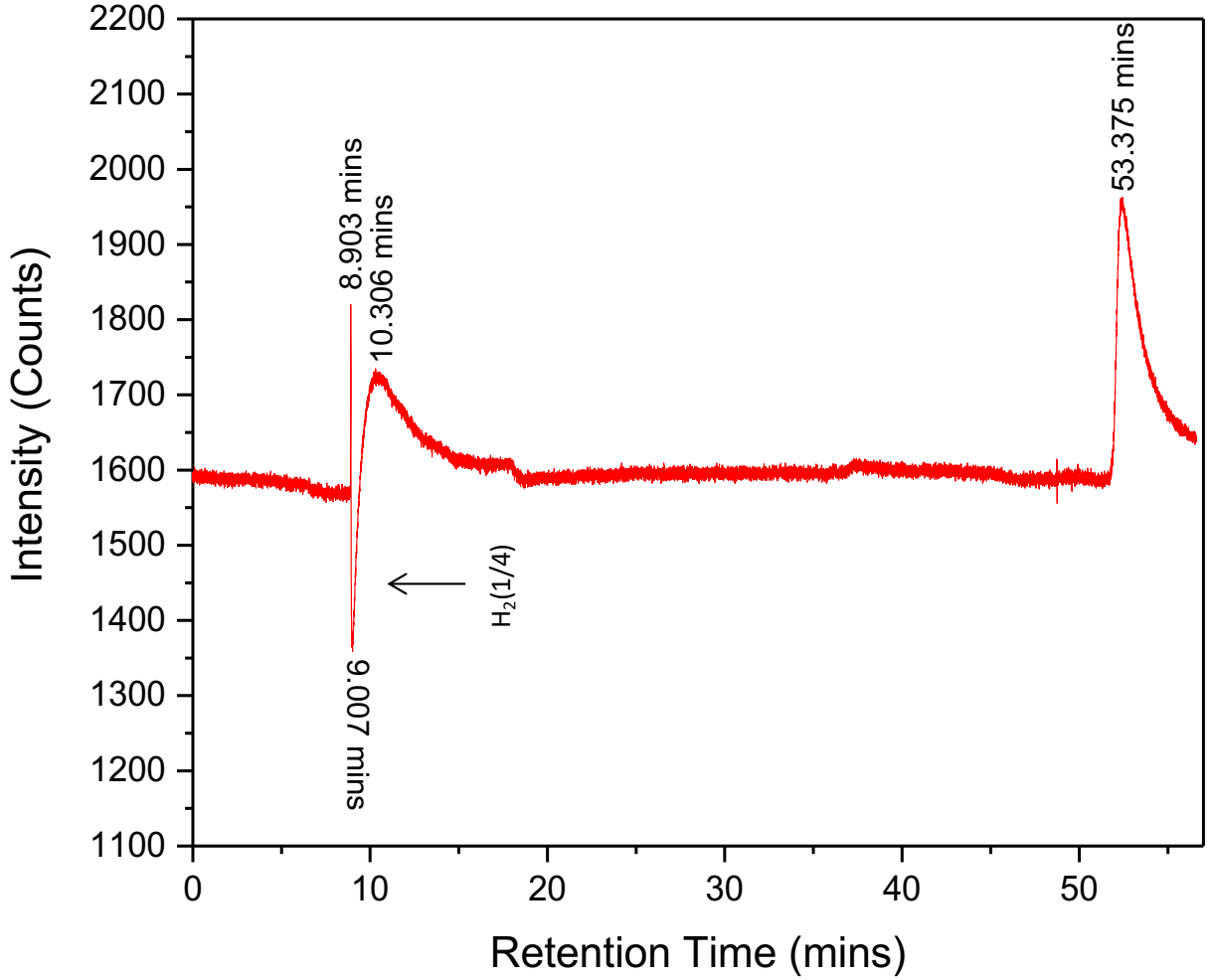
ToF-SIMS Spectrum of K_2CO_3-KCl (30:70 wt%) getter exposed to hydrino gas and having upfield shifted MAS NMR spectral peaks cont'd.

Positive ToF-SIMS, m/e = 200 to 1000 region.

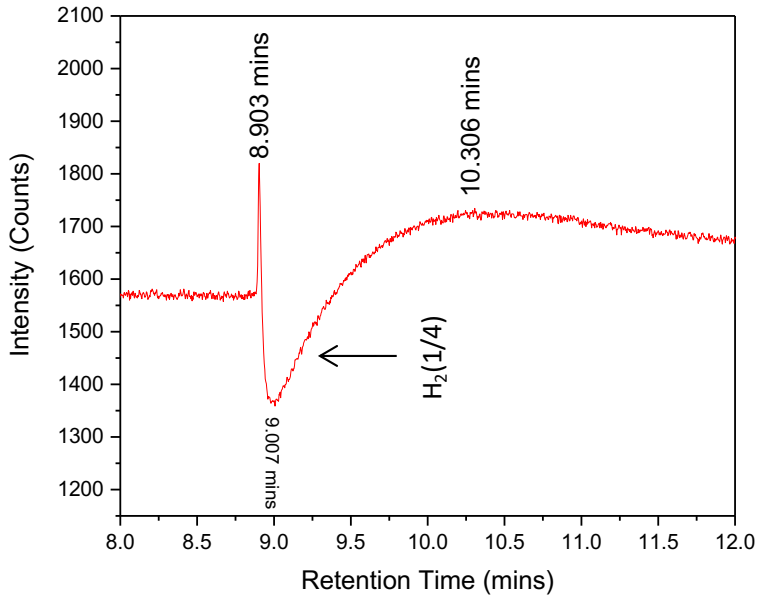


Hydrino gas evolved from Ga_2O_3 collected from a hydrino reaction run in the SunCell®.

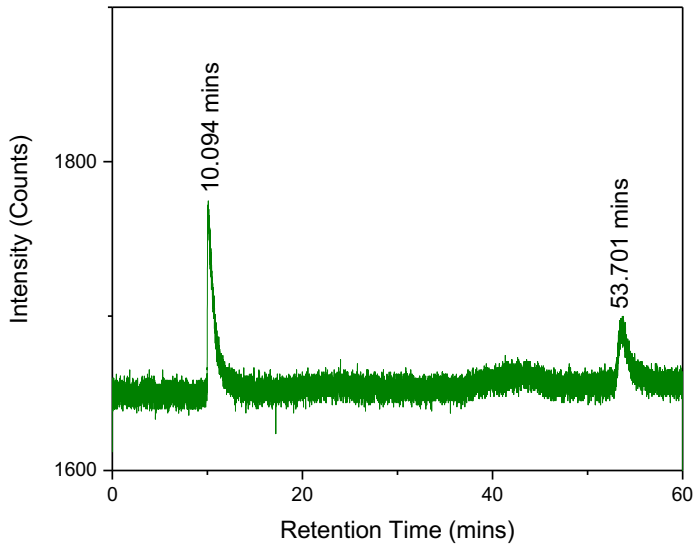
The known positive hydrogen peak was observed at 10 minutes, and a novel negative peak observed at 9 minutes having positive leading and trailing edges at 8.9 minutes and 9.3 minutes, respectively, was assigned to $H_2(1/4)$. No known gas has a faster migration time and high thermal conductivity than H_2 or He which is characteristic of and identifies hydrino since it has a much greater mean free path due to exemplary $H_2(1/4)$ having 64 times smaller volume and 16 times smaller ballistic cross section.



Expanded view of negative peak assigned to $H_2(1/4)$.



Following standing for over 24 hours, the gas chromatograph of the gas comprising $H_2(1/4)$ showed the hydrogen peak at 10 minutes and the methane peak at 53.7 minutes again, but the novel negative peak with shorter retention time than hydrogen was absent due to diffusion from the vessel.



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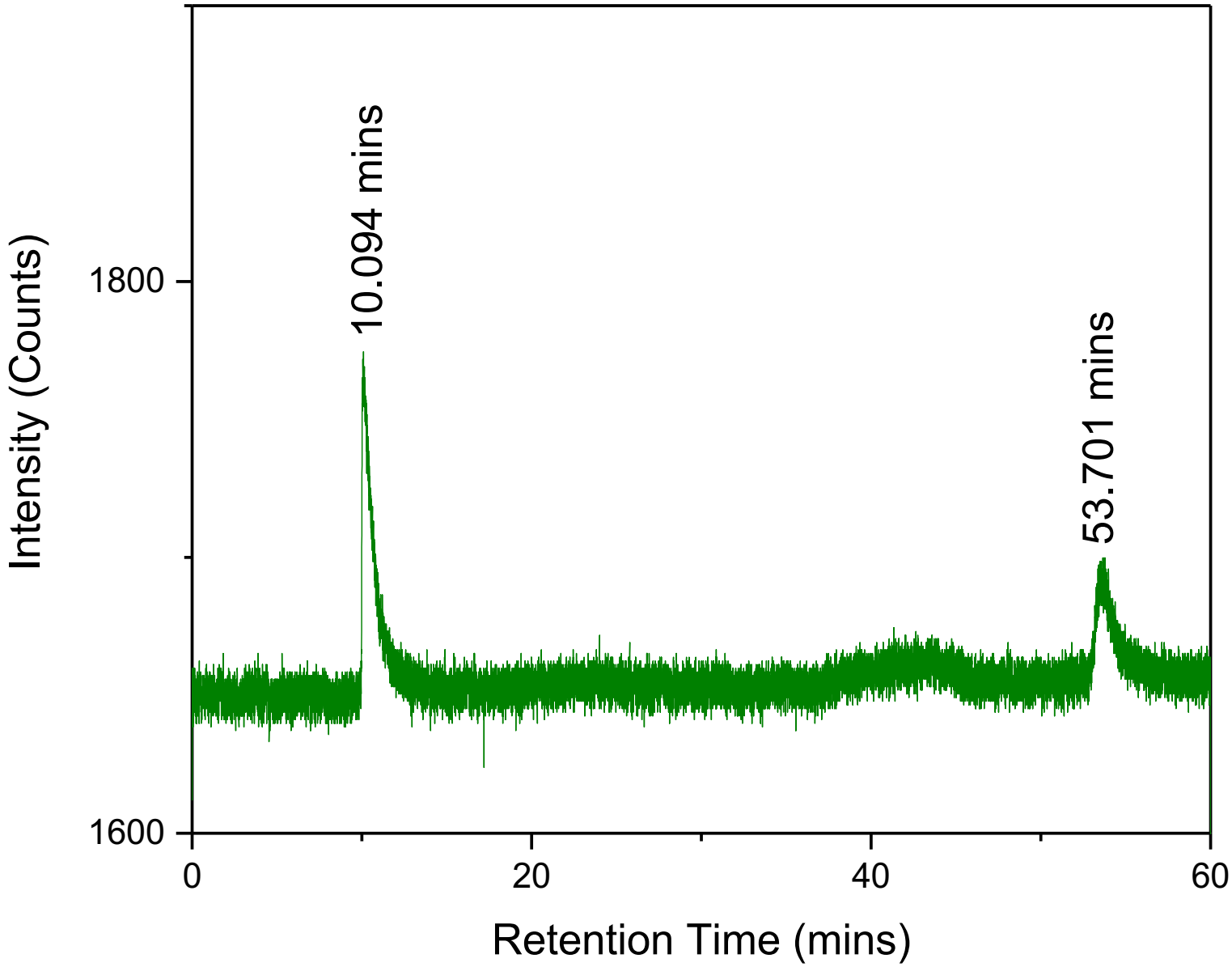

Thank you!

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