



Second Quarter Update April 4, 2018

Safe Harbor Statement

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.

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:

- Pursue Advancements to commercial adoption
- Develop the technology
- Engineer products
- Commercialize solutions
- Create value



Key Objectives

22 years of research, success and invention that is reaching inflection point for value

1. Continue development through to commercial adoption
2. Develop the Hydrino® theory and technology across multiple markets:
 - novel compounds,
 - energetic materials,
 - thermal energy and,
 - power generation.
3. Engineer SunCell® prototypes for thermal energy and power generation with novel magnetohydrodynamics (MHD) thermodynamic cycle
4. Pursue corporate partners to succeed at developing a commercial SunCell® product. Desired original equipment manufactures (OEM) identified.
5. Plan to outsource development of components of the new advanced SunCell® power source and MHD converter when beneficial.
6. Create value, create wealth with liquidity by public awareness and trading mechanisms (secondary market, IPO/public registrations)



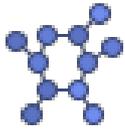
Key Objectives cont'd

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.



- **Theory:** Techniques and unique characteristic signatures to identify Hydrino® are predicted from exact closed-form solutions of atoms and molecules.
- **Hydrino® Identification:** Multiple methods demonstrated for measuring Hydrino® product. Over 100 peer reviewed publications, and an important new paper to be published regarding the confirmation of the fundamental Hydrino® reaction.
 - **Power Releasing Hydrino® Reaction:** 20 MW in microliters, highest controlled power density known.
 - **Power Engineering:**
 - Focused on an 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.

Expanding Reach of Hydrino® Opportunities



Novel Compounds

- **Market: \$TBD**
- Analytical identification 50% 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*



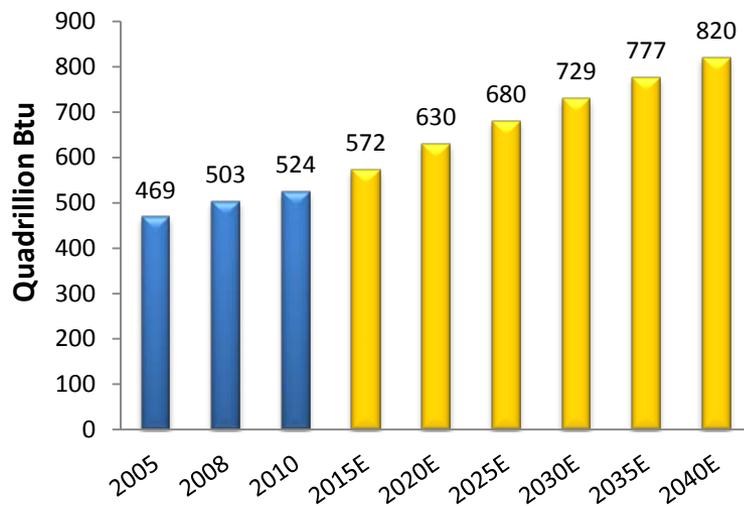
Power Generation

- **\$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*

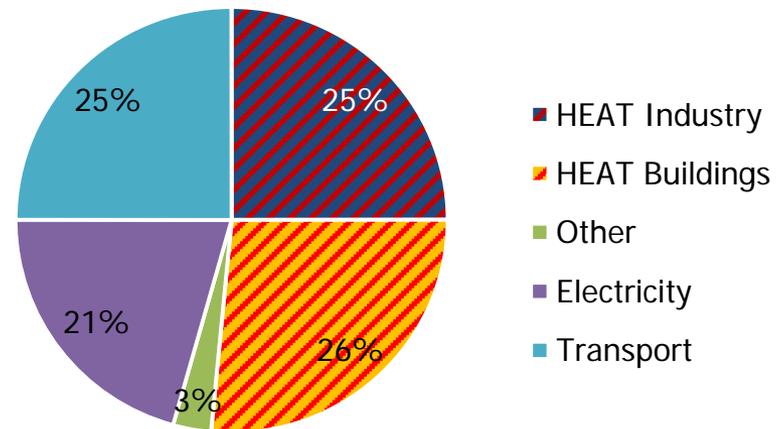
Global "Heat" Market

- \$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



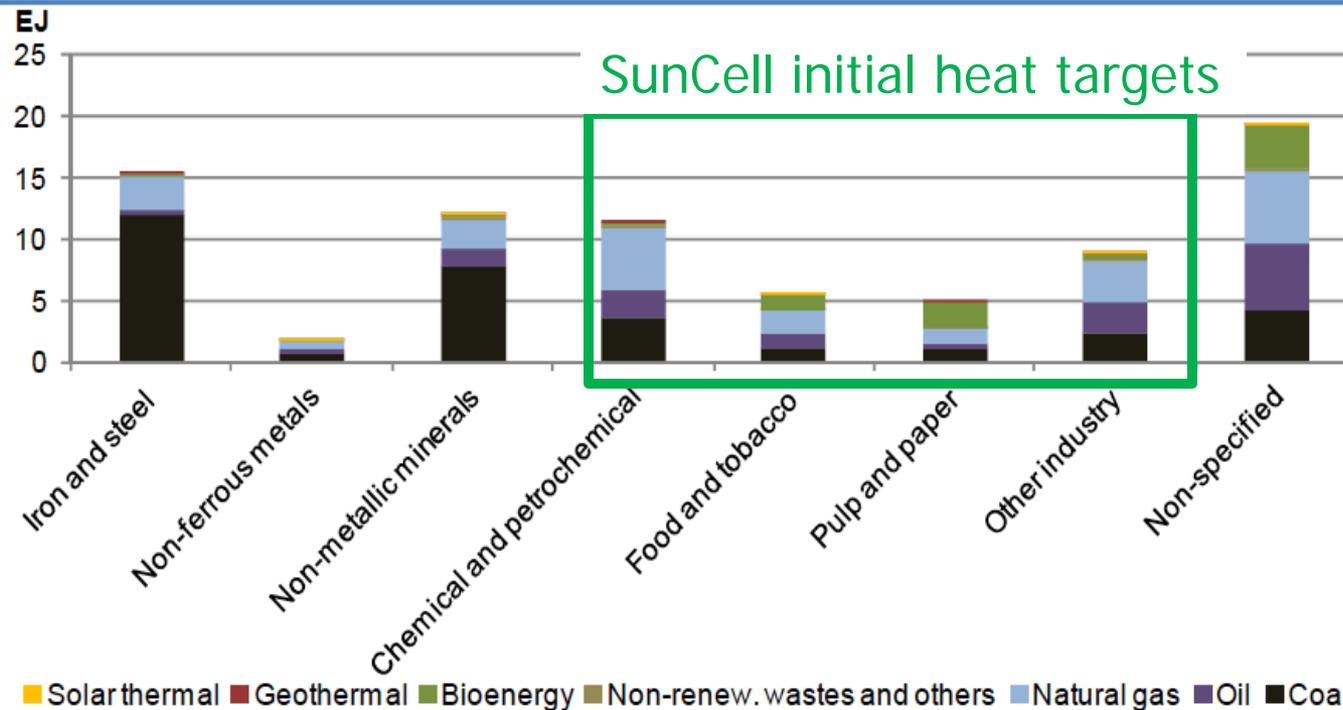
Final Energy Use



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

Industrial Heat Market Segments

Figure 5 • Global energy use for heat in industry by sector and fuel type, 2011



- 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

General Operations Update

- Advanced SunCell® design completed and patent applications are filed.
- SunCell® engineering is progressing well. Full-scale detailed advanced SunCell®-MHD model completed. Individual components have been successfully developed and tested.
- Novel MHD thermodynamic cycle invented, equations solved, operation modeled. Results project high efficiency and power density. No challenges to commercial operability have been discovered.
- Added additional engineers to complete SunCell® prototype.
- Using low-melting point metals to enable use of mechanical pumps to quickly test engineering systems. Also testing ability to support hydriano reaction for thermal application.
- Building 250 kW-1 MW SunCell® radiative boiler design engineered by TMI for thermal application.

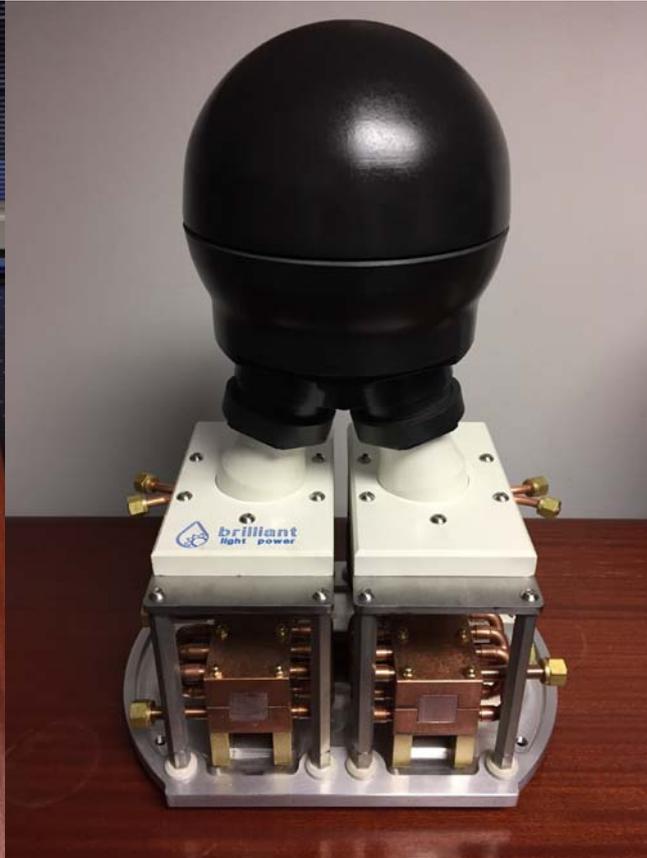
General Operations Update cont'd

- As a high priority, BrLP will pursue corporate partners to succeed at developing a commercial SunCell[®] product.
- Desired original equipment manufactures (OEM) identified. Some due diligence in progress with goal to form strategic partnership and investment as route to commercialization.
- Plan to outsource development of components of the new advanced SunCell[®] power source and MHD converter to OEMs and engineering firms when beneficial.
- We are working on timelines to achieve prototypes of thermal and electrical SunCells[®] that demonstrate an obvious commercial viability.

General Operations Update cont'd

- Last year we successfully raised \$20M at a \$6B market capitalization. We are well capitalized.
- We are also working on updating our business plan, financial projections, and presentations.
- We have updated cost projections of a 150 kW SunCell as \$30 per kW DC electric.

Carbon-Domed SunCell[®] for PV Conversion



Columbia Tech SunCell®

Engineering Program Update

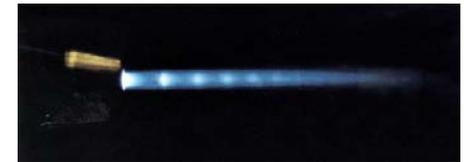
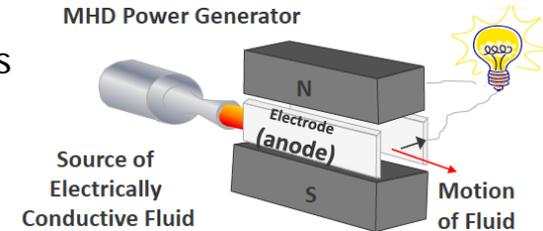
- Between October and February, Columbia Tech (CT) was tasked with the goal of mastering continuous injection and ignition with the carbon-domed SunCell® design for thermal photovoltaic (PV) conversion.
- CT made some incremental changes to improve the electromagnetic (EM) pump by adding more cooling and current leads, but were not able to achieve SunCell® operation goals since the changes caused an opposite deleterious effect on the ability melt the silver. The cooling resulted in EM pump melting through before the silver in the cell could be melted.
- The basic problem was that opposite temperature extremes were required of parts in very close proximity.
- We shifted priorities to an advanced design that solved the flaws. We also adopted the use low-melting-point metals to eliminate the heating challenges to rapidly test new systems using simple mechanical pumps.

2018 Program Goals

- We have been focused on a much more advanced design that has the capacity to generate arbitrarily high power with much less complex systems that should have a significant impact on the time to commercialization.
- Pioneering innovations and blocking intellectual property regarding the SunCell® power source and electrical conversion have been created.
- The same power source can serve as a platform for myriad thermal power sources having \$3T/y markets.

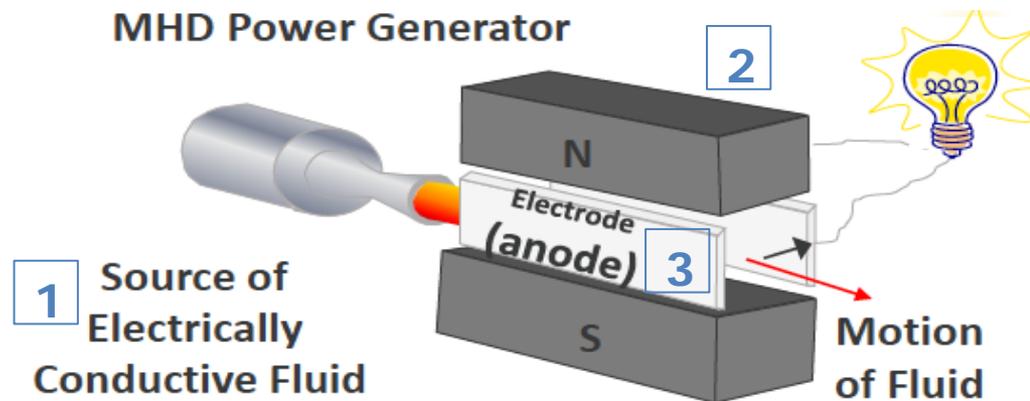
SunCell Next Generation Breakthrough Potential

- 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



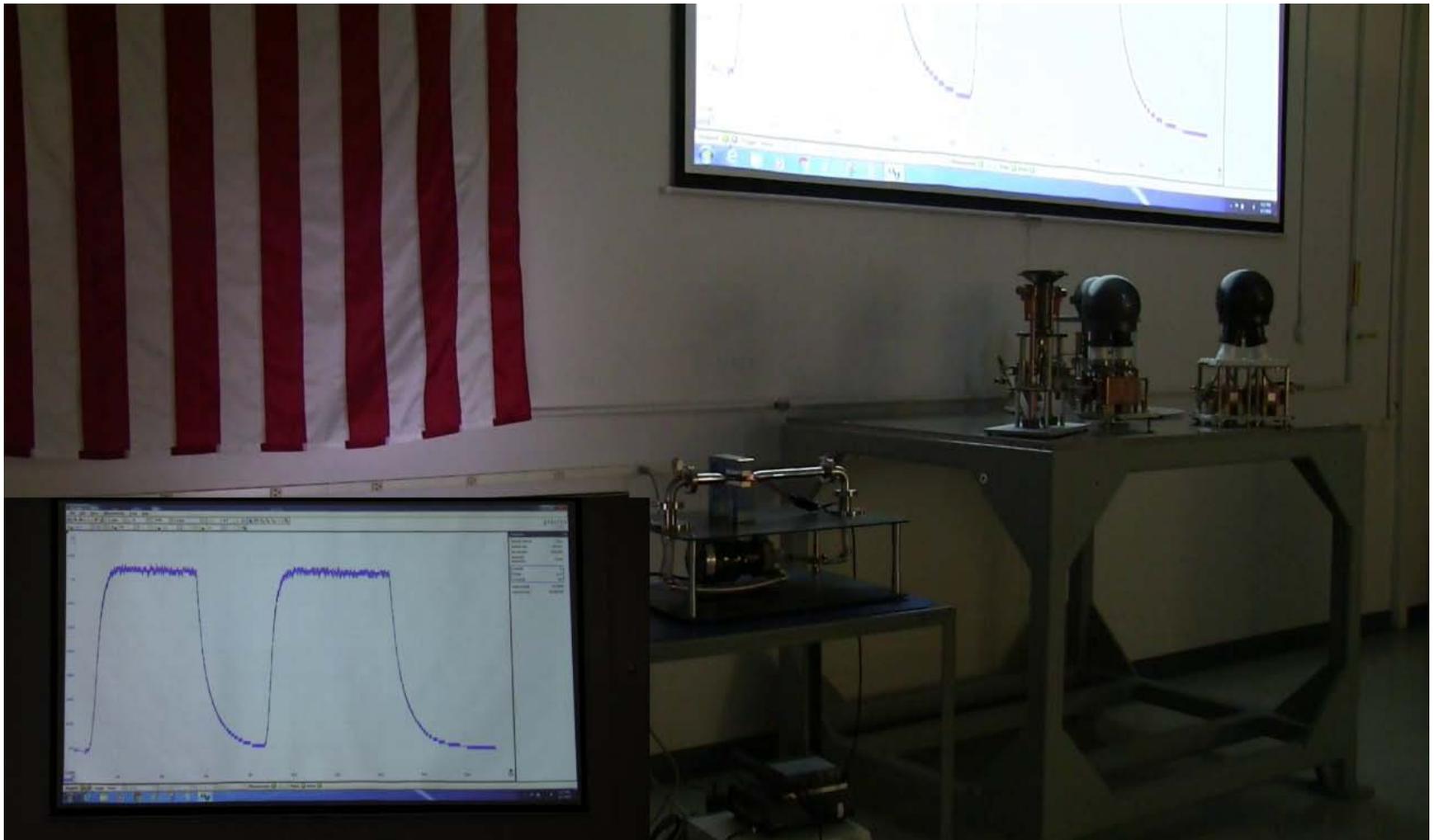
Magnetohydrodynamic (MHD) Generators

- 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

Magnetohydrodynamic Electric Power Generation Demonstration



Click the above image to view on YouTube:
<https://youtu.be/wwk8QefsvMk>

2018 Program Goals Cont'd

Advanced SunCell[®] Design Advantages

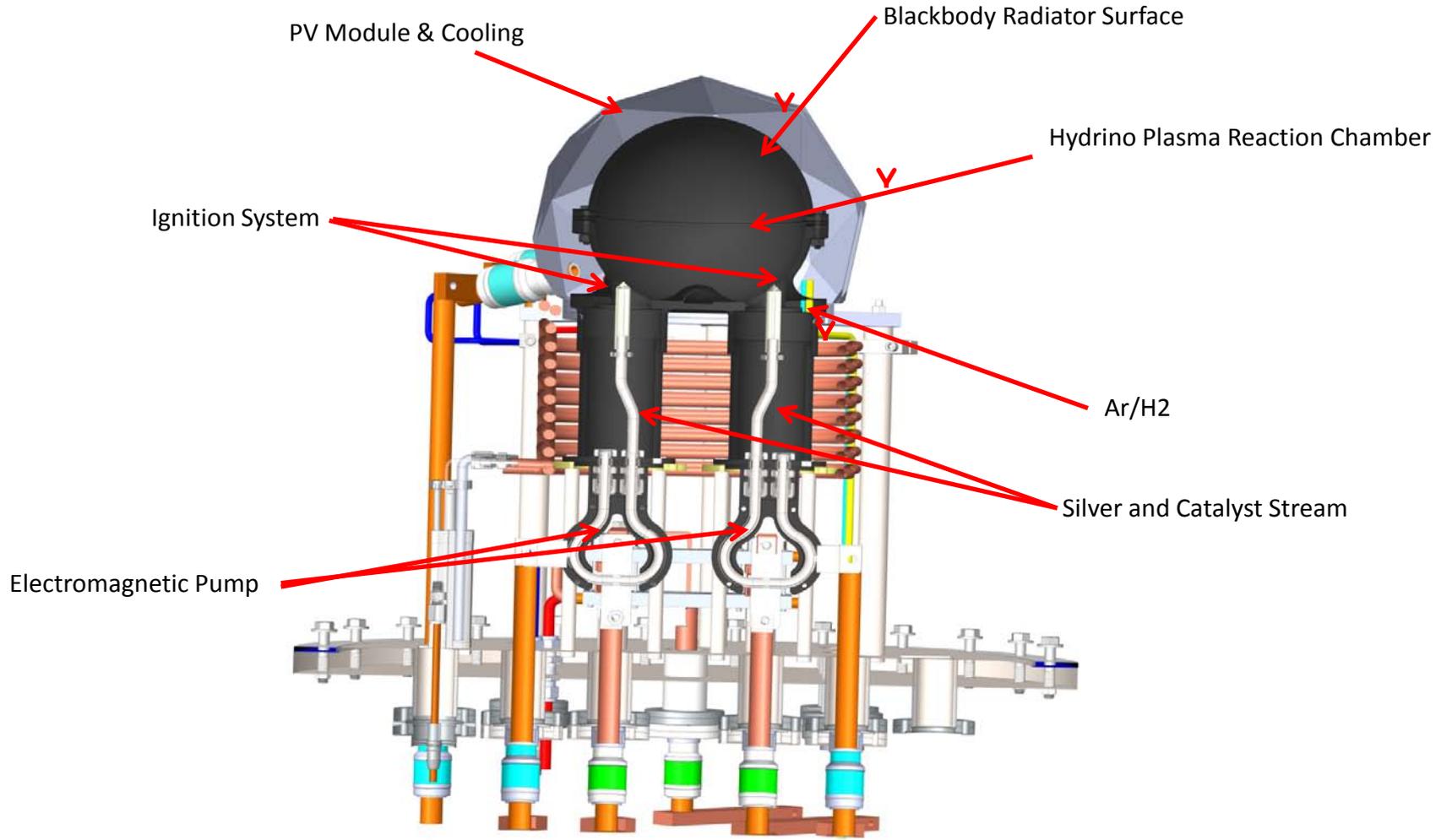
- All-ceramic SunCell[®] reactor that can operate in air, no sealed chamber required, standard materials and seals, operates at standard elevated temperatures, has no cell electrical connections, power leads are low current, supports known hydriano reaction chemistry, no corrosion potential from reactants, standard mass flow reaction gas delivery, near perfect reservoir level control to enable steady head pressure for submerged injectors, enables optimal efficiency of heater antenna design, enables magnetohydrodynamic (MHD) conversion, and supports thermal and electrical power production.
- MHD has the capacity to generate arbitrarily high power with much less complex systems that should have a significant impact on the time to commercialization.
- With MHD conversion, the power level may be much greater than PV with much less time to big power such as megawatt-scale that operates reliably at lower cost.
- Relative to thermophotovoltaic, MHD is a means to avoid possible more lengthy field trials due to MHD being proven technology for large scale power generation with the advantages of standard operating temperature, standard materials and seals, a much higher power density, lower costs, higher efficiency, much greater robustness, and much simpler off-the-shelf components.
- MHD comprises system simplicity with no moving parts.

2018 Program Goals Cont'd

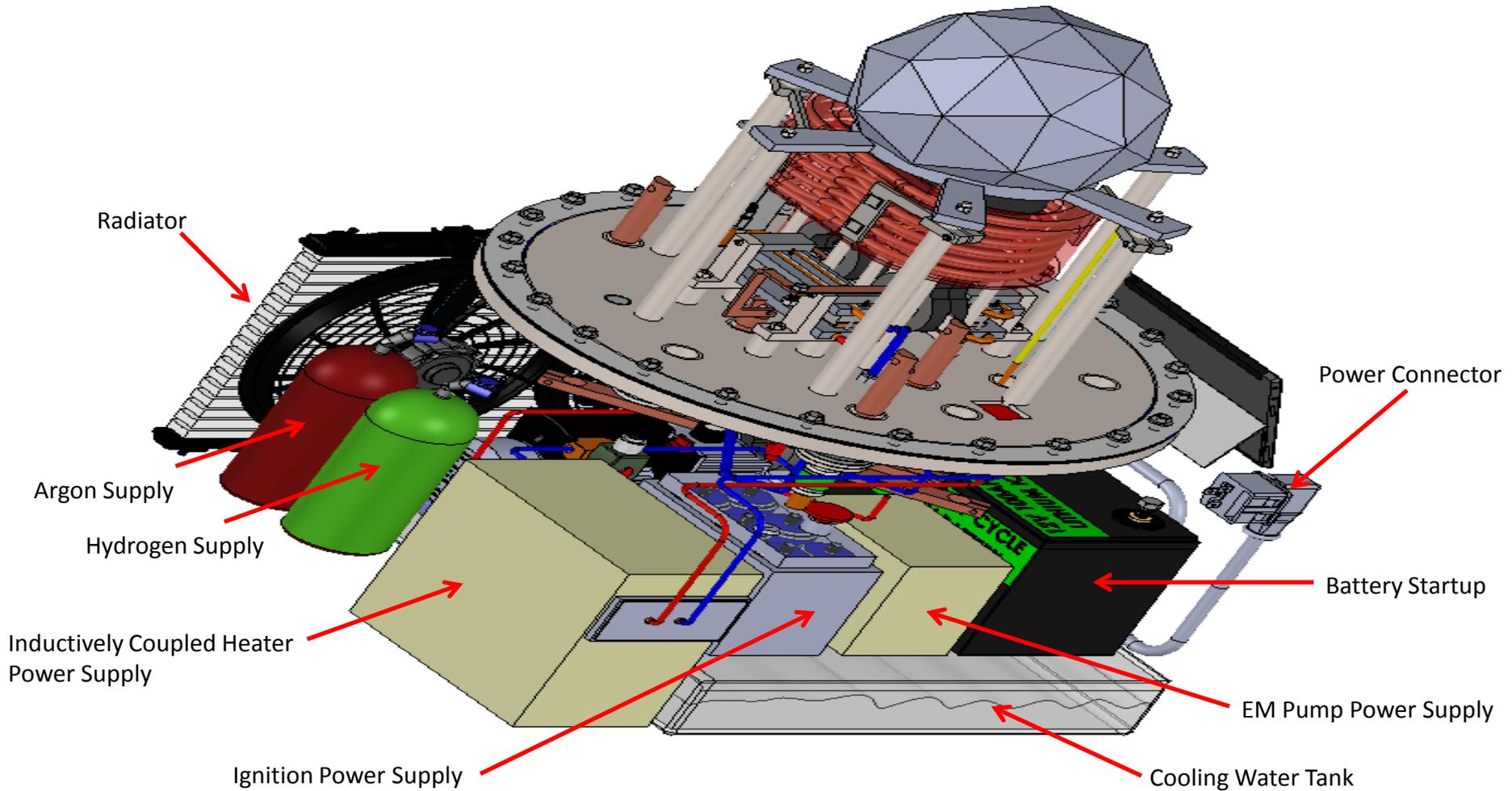
Magnetohydrodynamic Converter

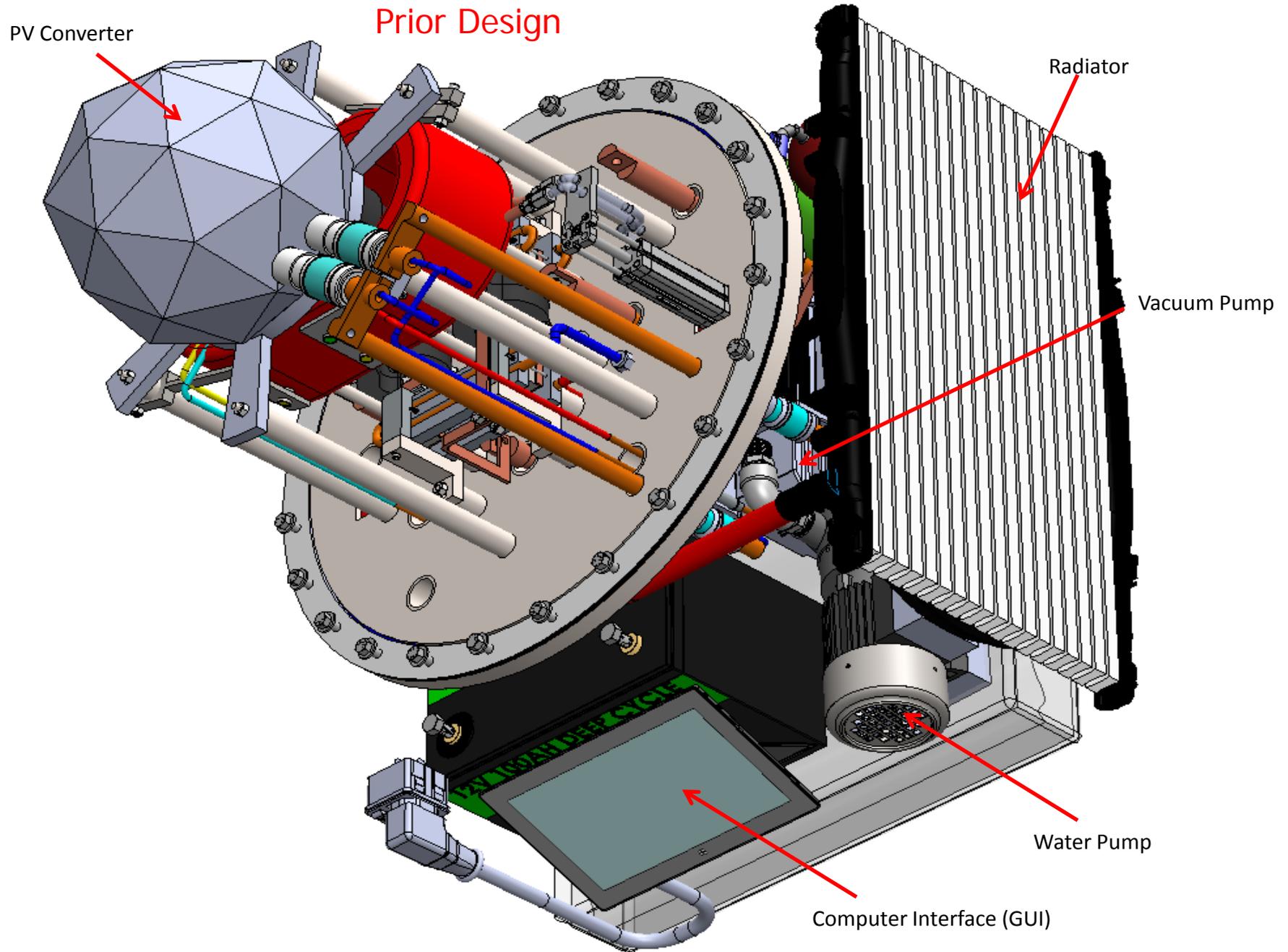
- We should be able to move more quickly to a commercial SunCell® electrical power generator once the advanced ceramic SunCell® and MHD engineering come together.
- Modeling of a number of MHD thermodynamic cycles, modified for the SunCell® showed at least one of low efficiencies and a need for undesirably large support equipment.
- Novel MHD thermodynamic cycle invented, equations solved, operation modeled. One of two key kinetic parameters tested successfully in laboratory; testing of the second one is in progress.
- ANSYS FLUENT simulation in progress, then build MHD systems.
- Results project high efficiency and power density. No challenges to commercial operability have been discovered.
- The newly invented novel MHD thermodynamic cycle seems well suited for the SunCell®.

Prior Design



Prior Design





PV Converter

Prior Design

Radiator

Vacuum Pump

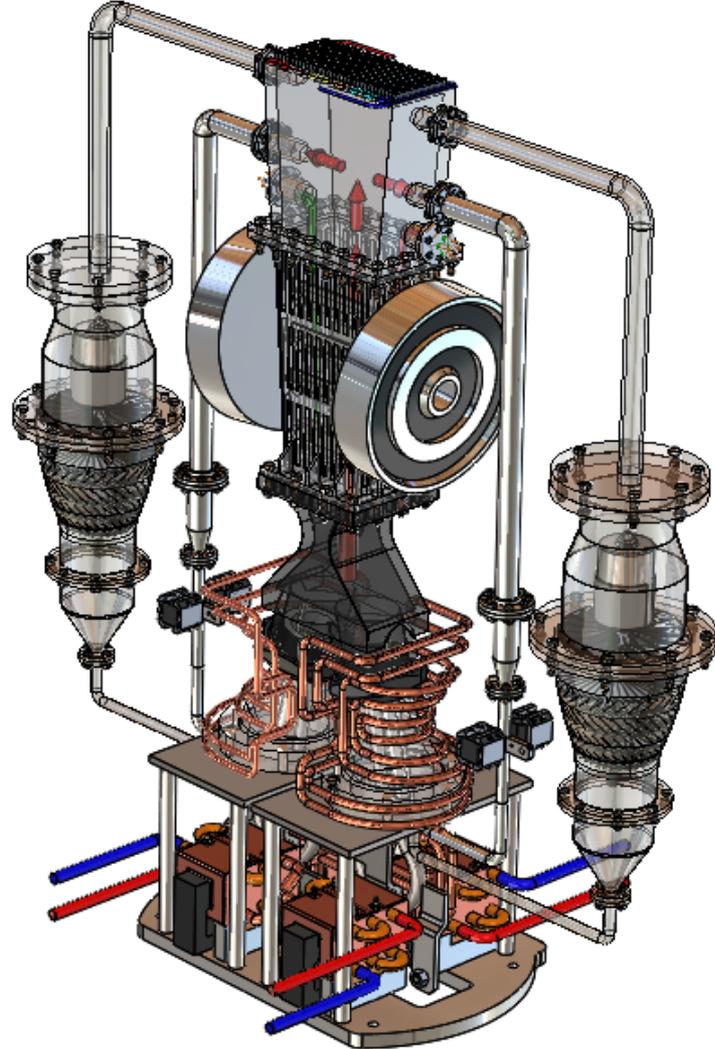
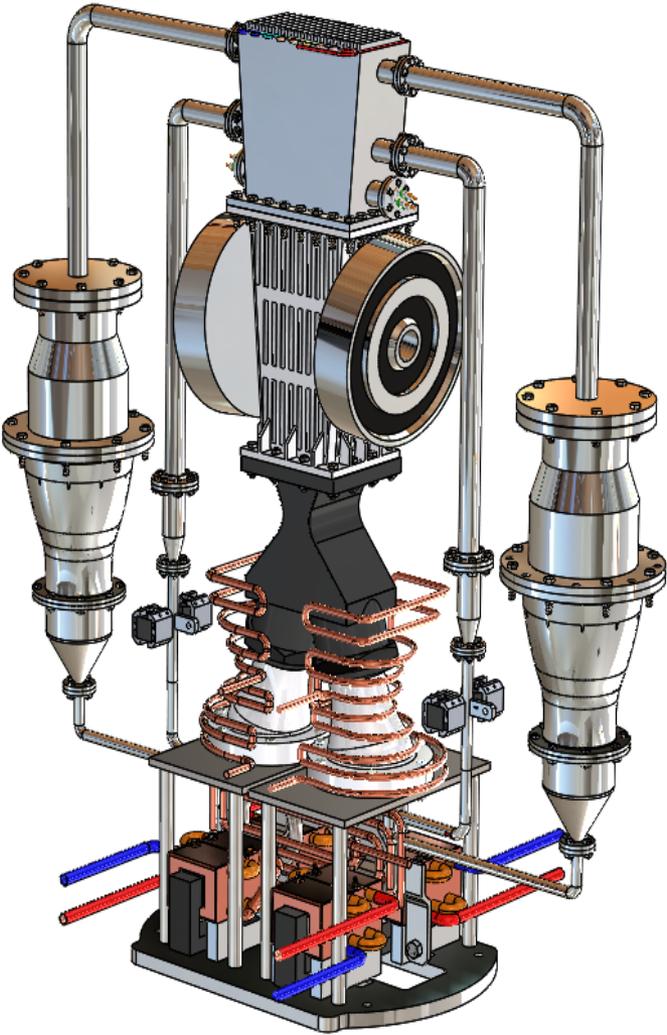
Water Pump

Computer Interface (GUI)

SunCell with Magnetohydrodynamic Converter

(external and transparent views)

Prior Design



2018 Program Goals Cont'd

- Due to recent developments our goals for 2018 have taken shape.
- One goal 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.
- The power source is our core business and basis of the majority of our value.

Explosive power



Click the above image to view on YouTube:

<https://www.youtube.com/watch?v=SDhRvnYZbng>

2018 Program Goals Cont'd

Power balance:

20 MW from 10 millionths of a liter volume:

<http://brilliantlightpower.com/wp-content/uploads/papers/Hydrino-Blast-Power-Paper-120517d.pdf>

- The power 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.

2018 Program Goals Cont'd

- 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.

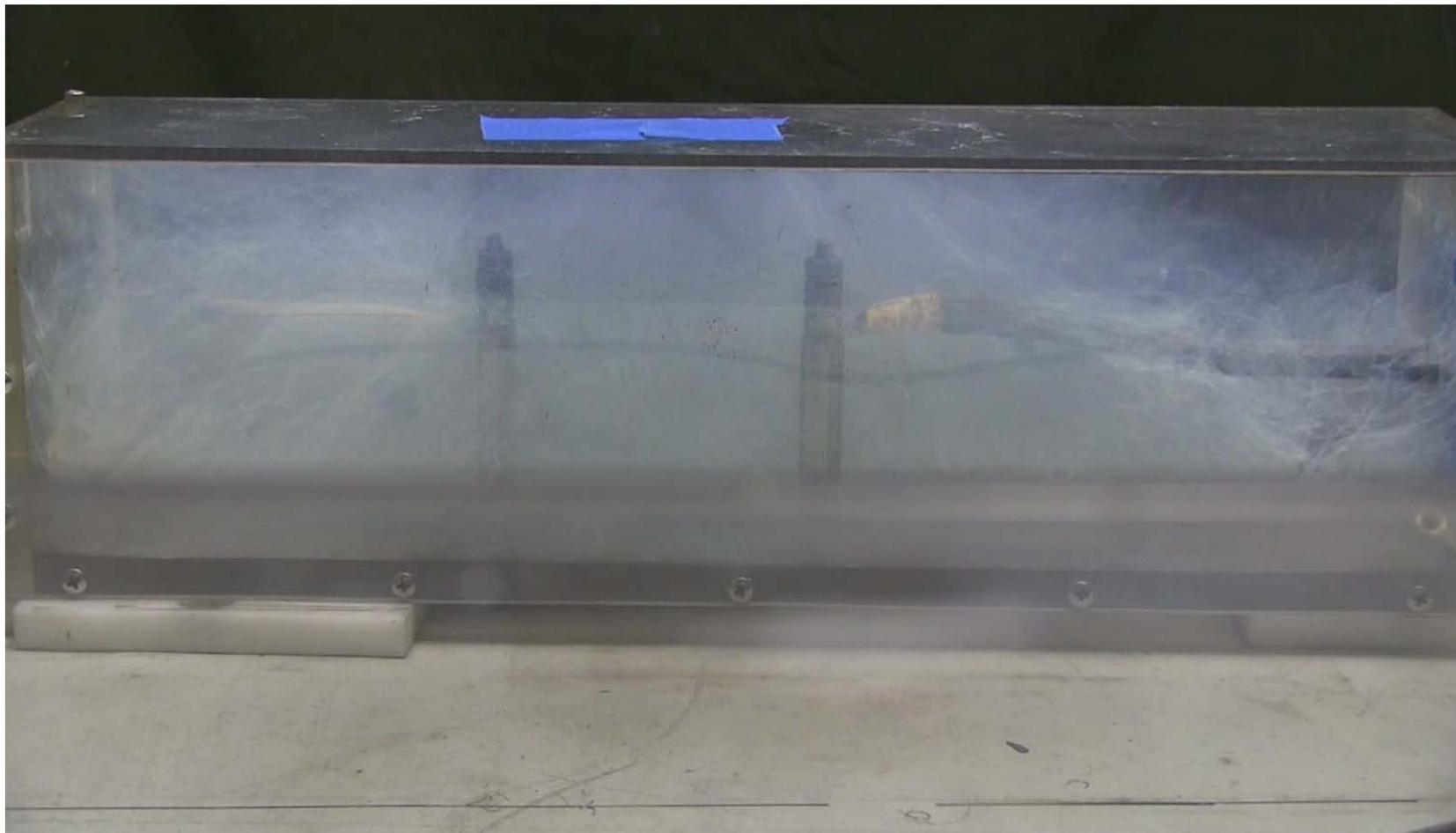
Energetic Materials

- Initial data such as shock wave propagation velocity on hydrino energetic materials shows superiority to gunpowder. <http://brilliantlightpower.com/wp-content/uploads/papers/Hydrino-Blast-Power-Paper-120517d.pdf>
- Greater than TNT: An explosives expert's report is complete that shows that the hydrino reaction blast parameters are ten times better than those of TNT. <http://brilliantlightpower.com/greater-than-tnt/>
- Analytical evidence indicates that we are forming novel hydrino compounds during the detonation. See video of extraordinary compounds at <http://brilliantlightpower.com/plasma-video/>

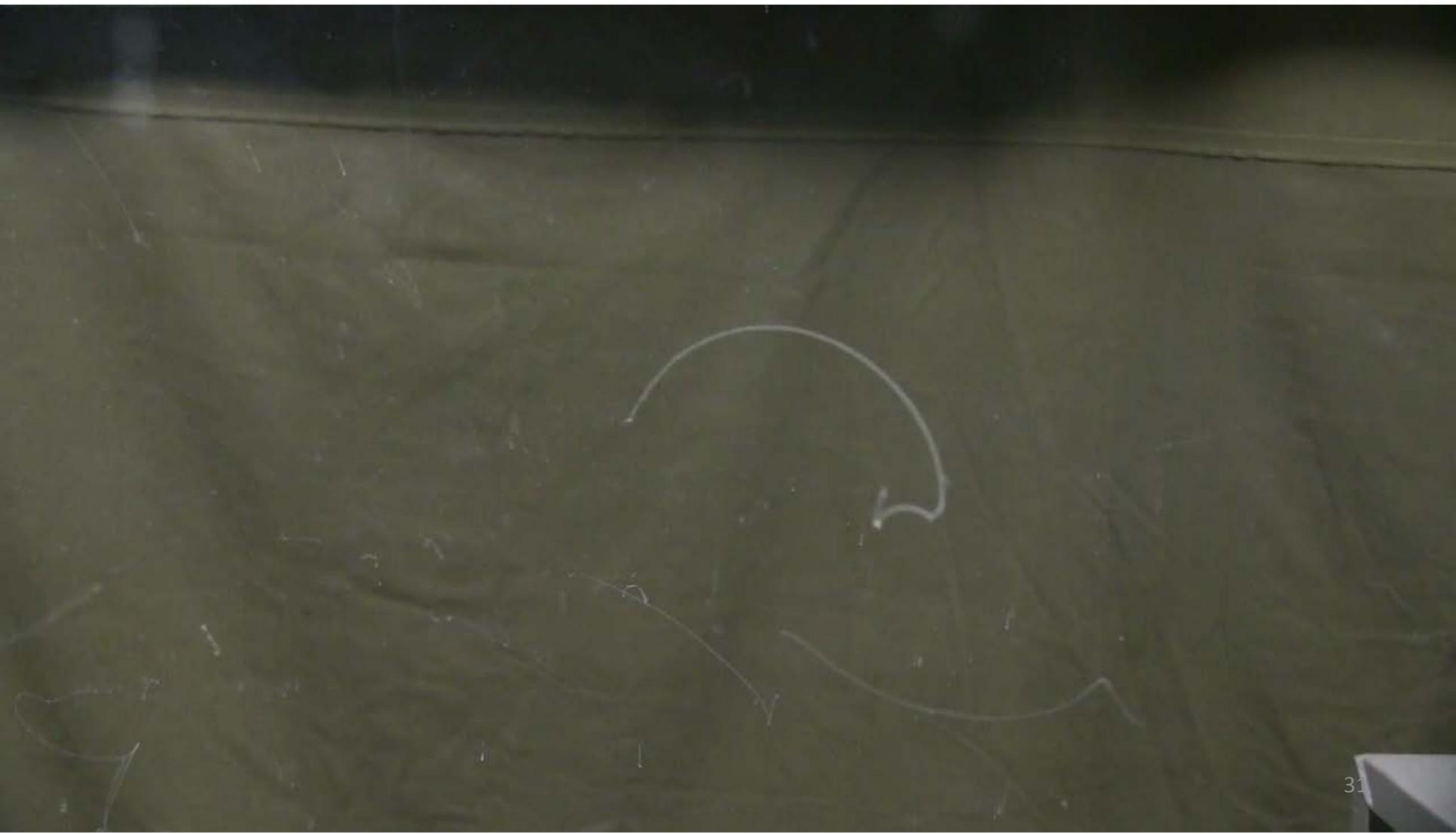
Novel Hydrino Compounds

- Analytical identification of hydrino product is about 50% complete.
- The elemental composition of reactants to form hydrino hydrogen products is known to 99.99%. This is below the analytical detection limit for any contaminants. The analytical tests further confirm the elemental composition. Known possible compounds of the starting elements are easily eliminated.
- The products are not known.
- Moreover, the products exhibit magnetism that is unknown to the elemental composition.
- Current data supports that the products comprise hydrinos.
- There are analyses that appear unequivocal, but the results need repeating.

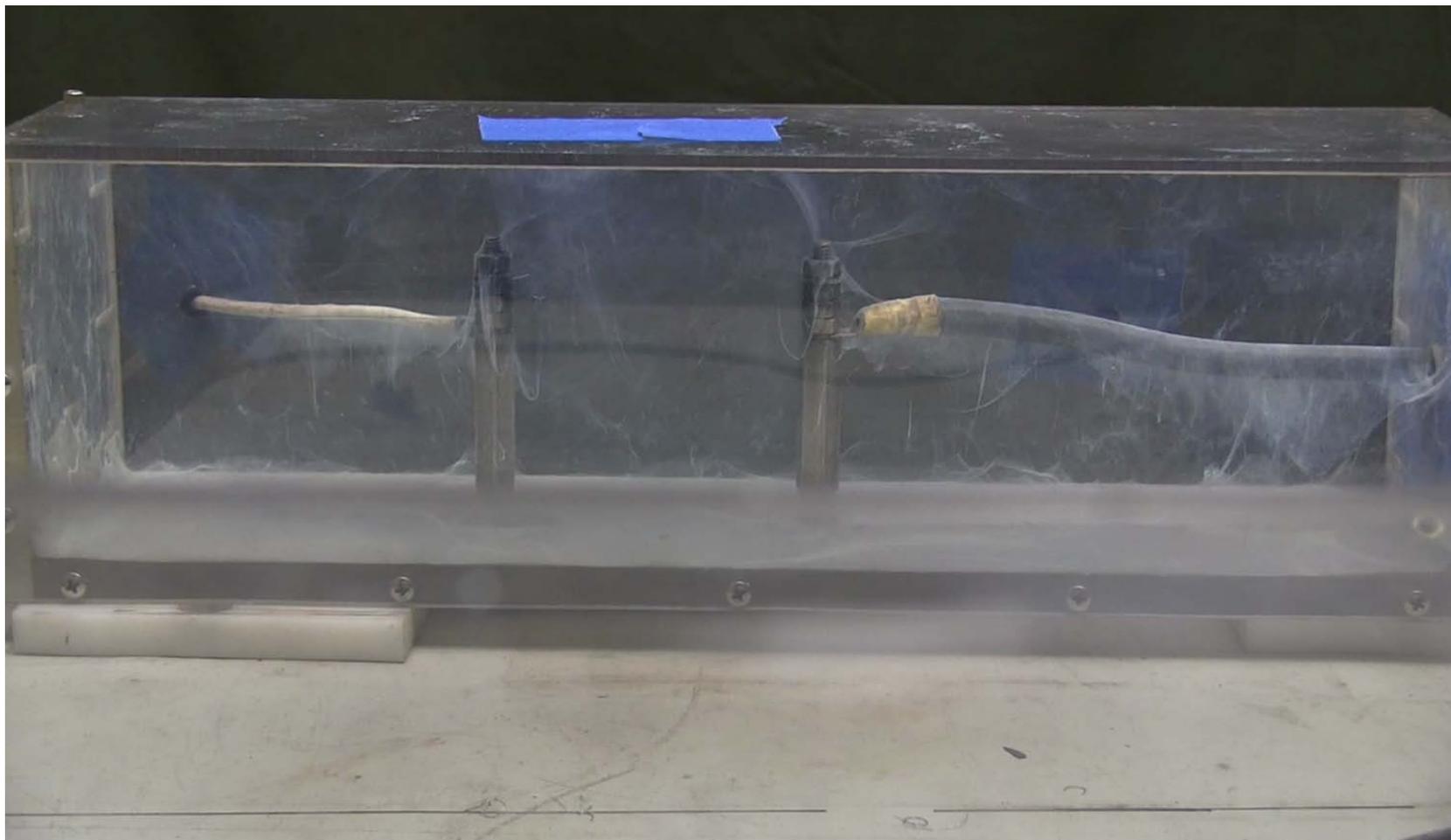
Novel Hydrino Compounds



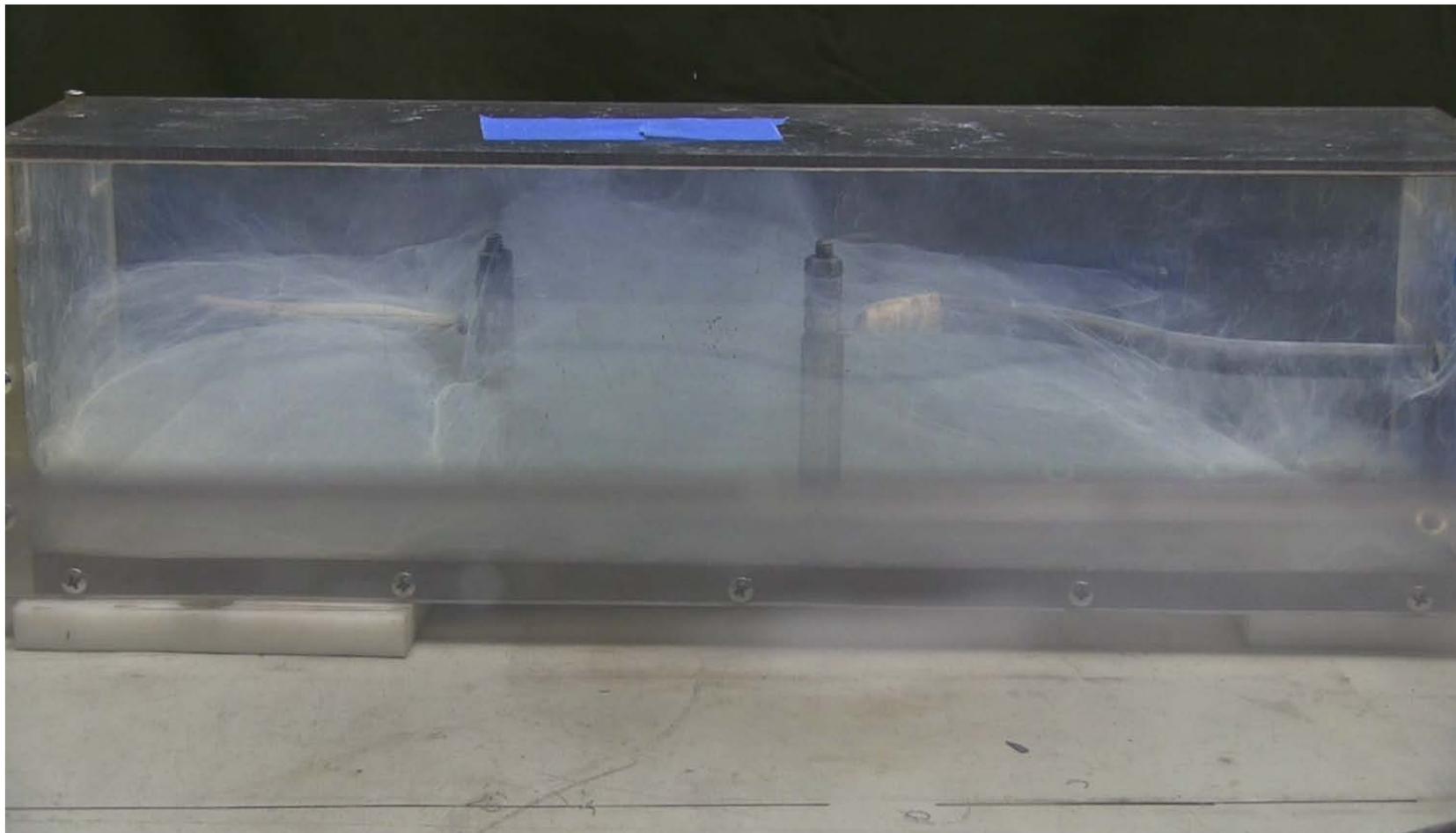
Novel Hydrino Compounds



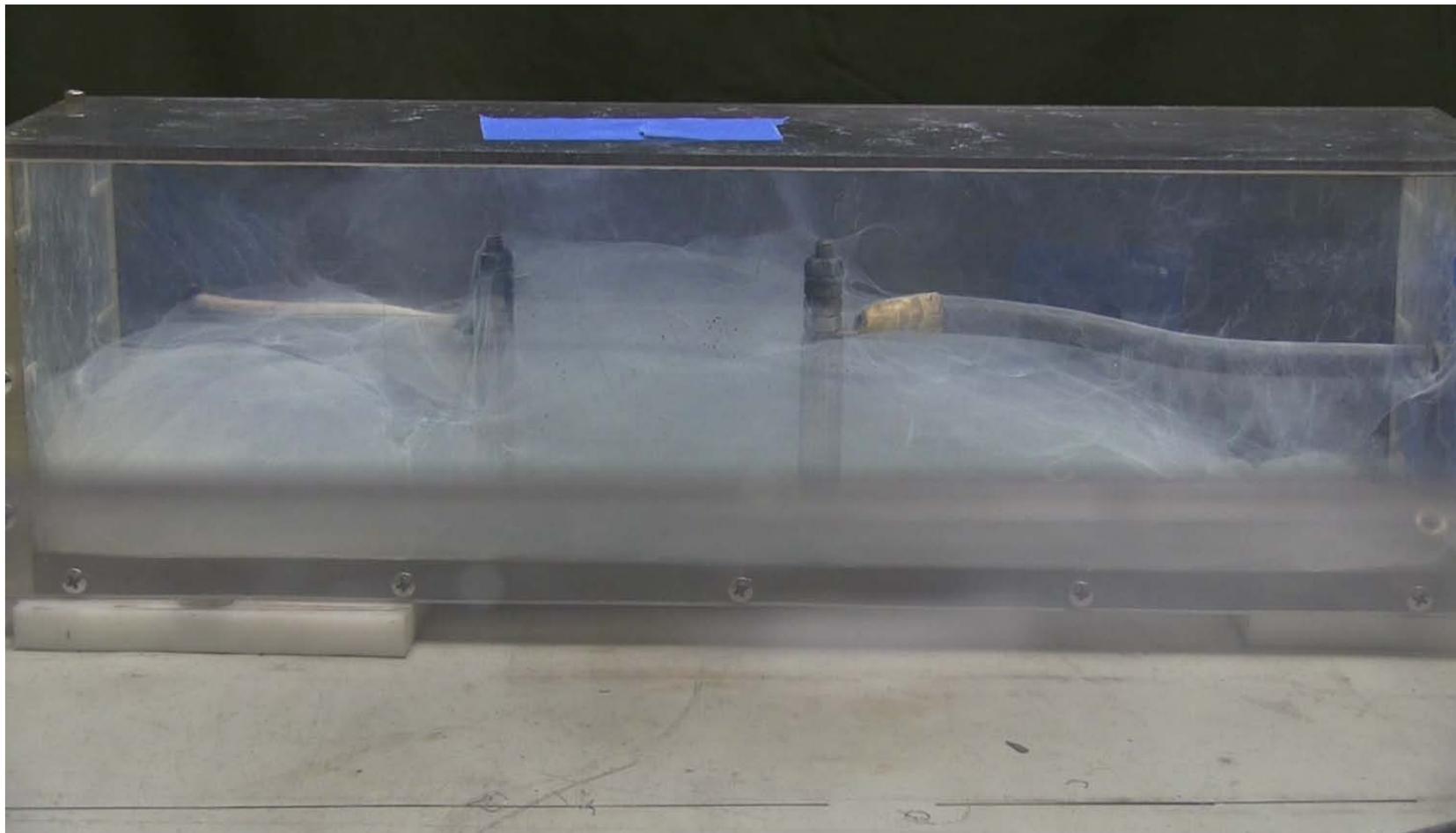
Novel Hydrino Compounds



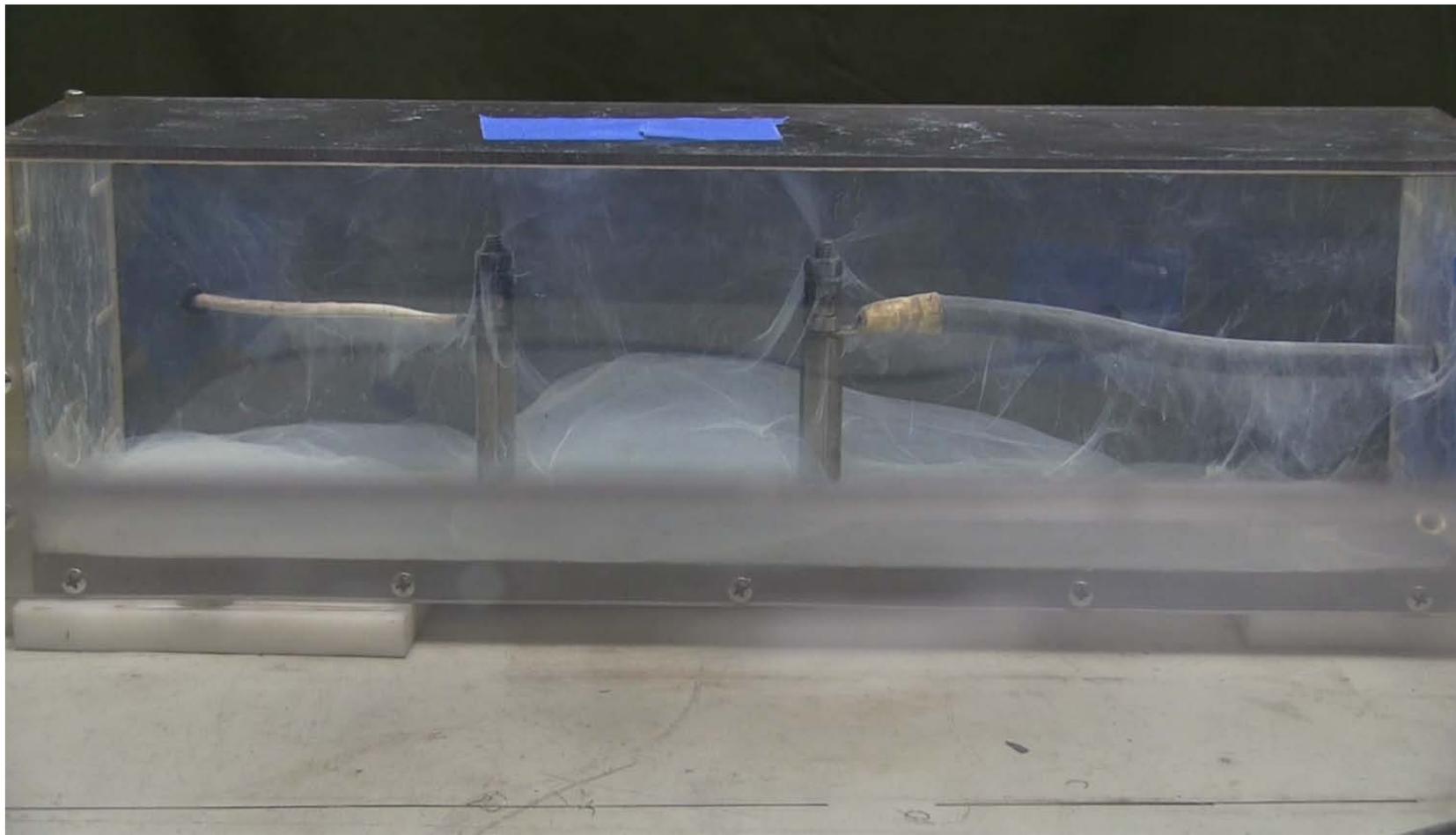
Novel Hydrino Compounds



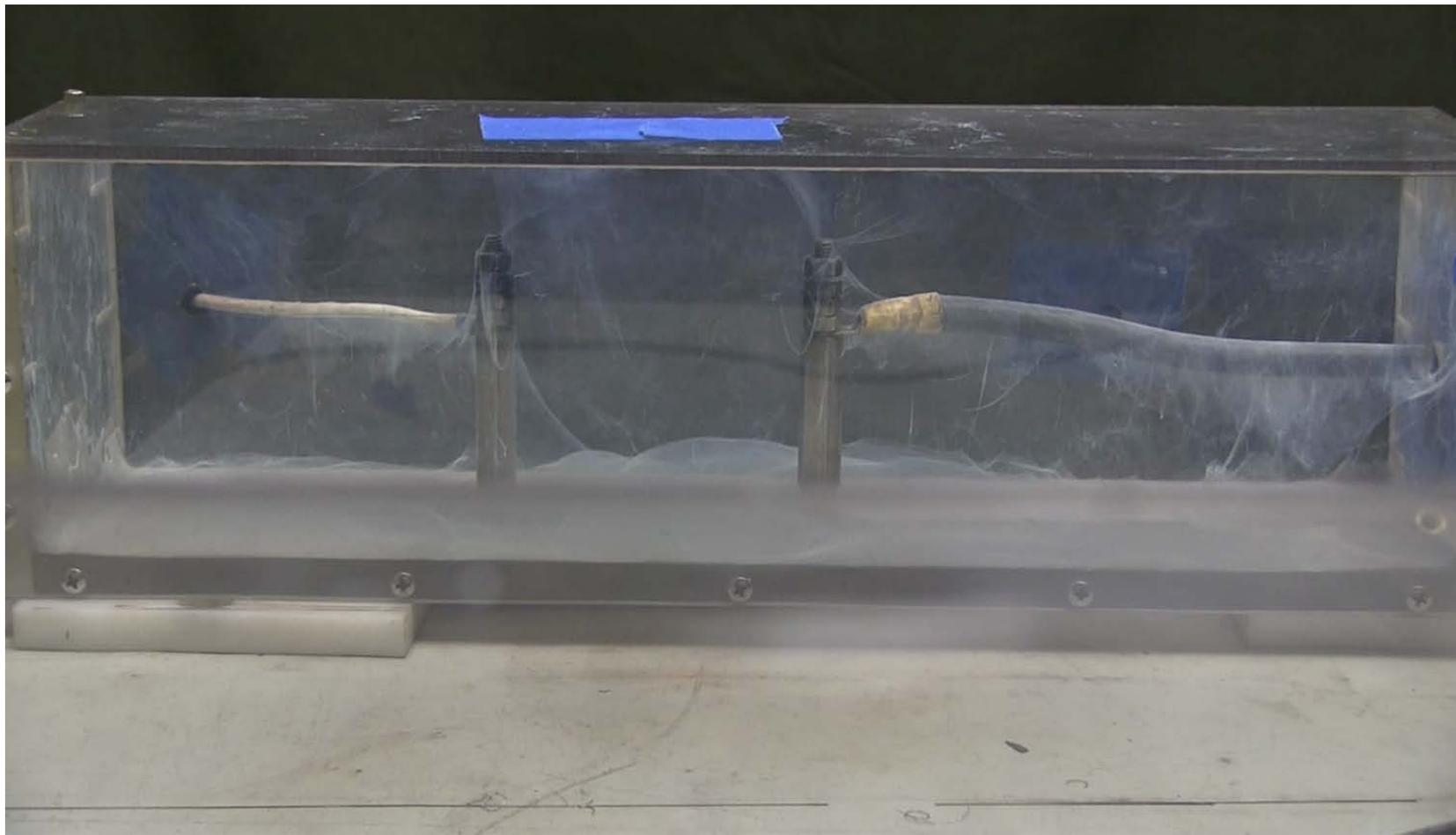
Novel Hydrino Compounds



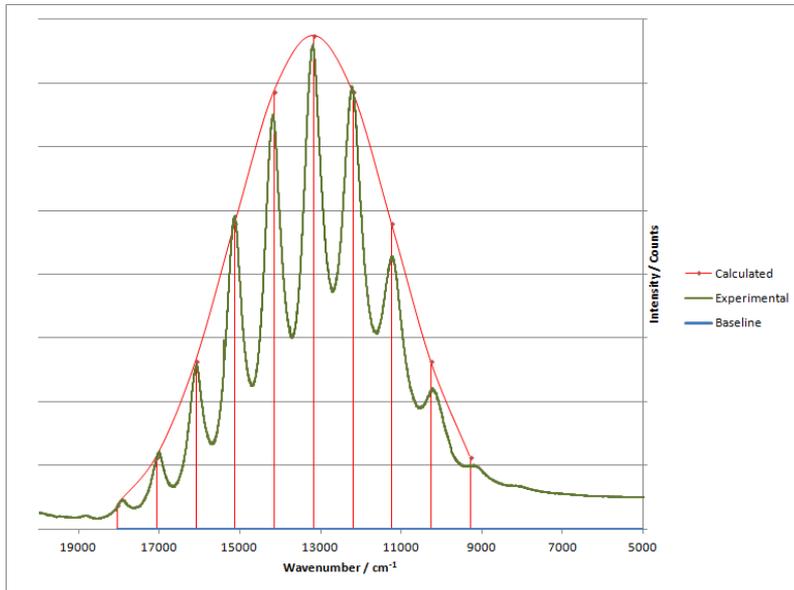
Novel Hydrino Compounds



Novel Hydrino Compounds



Methods for measuring Hydrino® product

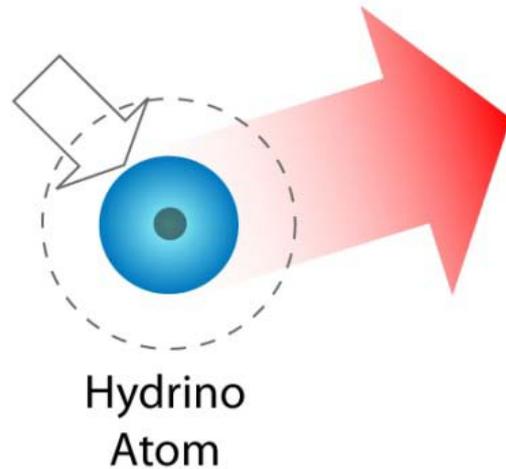
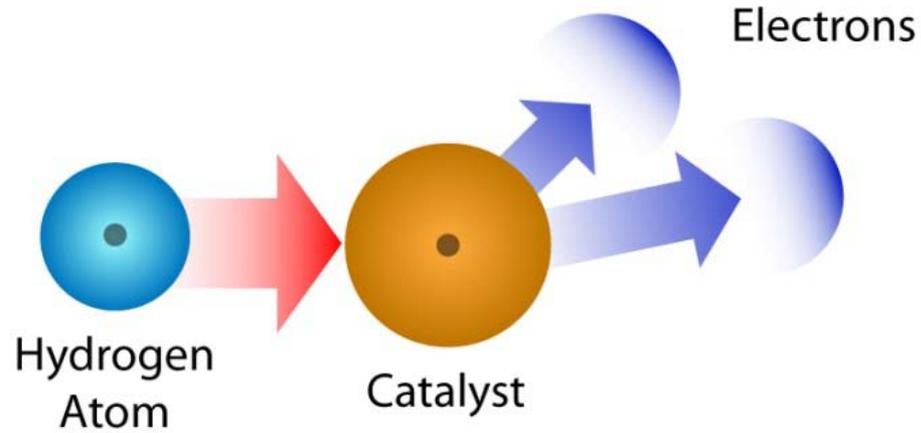


- GUT
- Molecular modeling
- H(1/2) and H(1/4) hydrino transitions observed by continuum radiation
- Astronomy data verifying hydrinos such as H(1/2), H(1/3), and H(1/4) hydrino transitions
- H(1/2) hyperfine structure
- H₂ (1/4) XPS binding energy

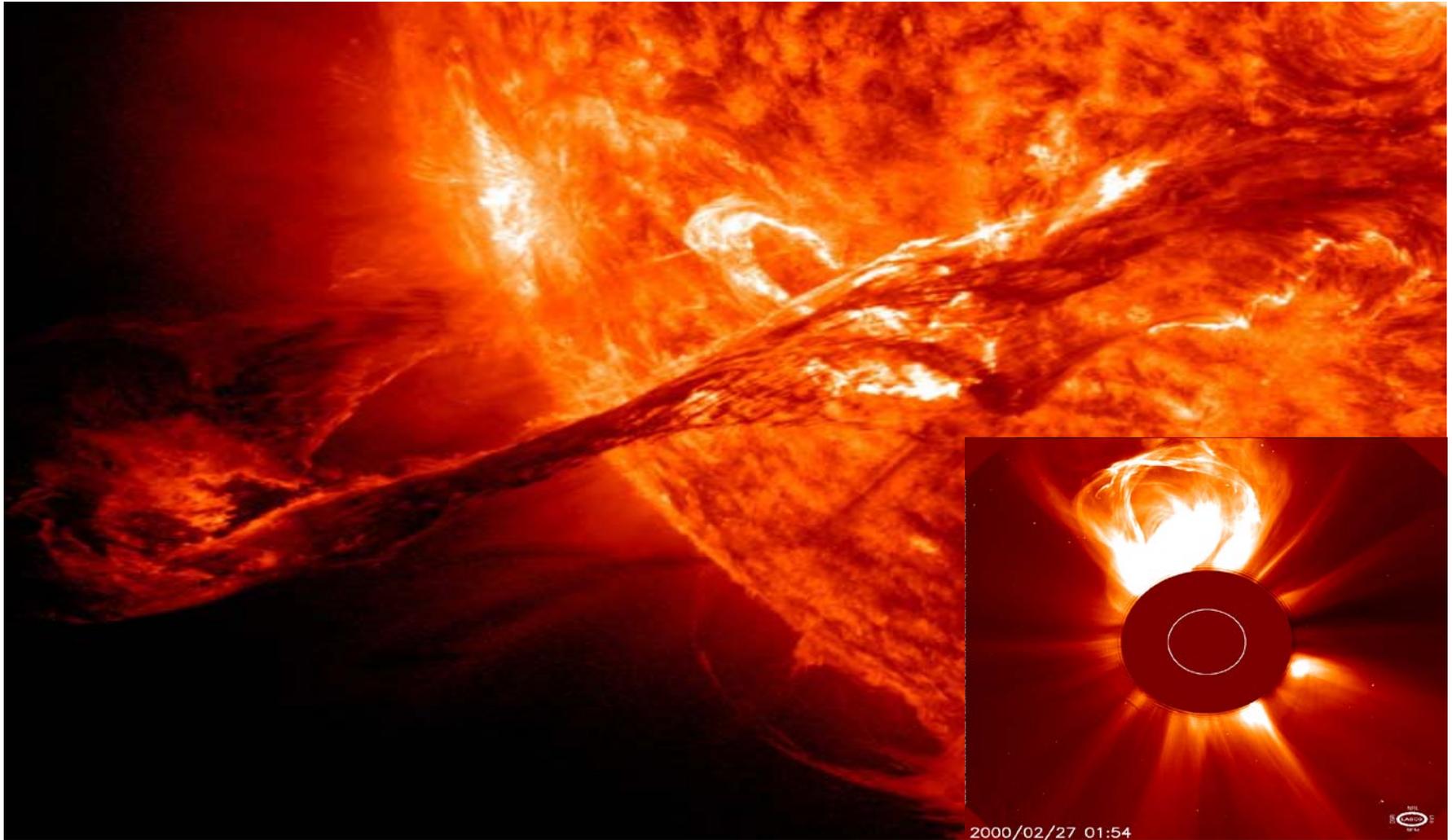
- H₂ (1/4) ro-vib spectrum in crystals by e-beam excitation
- H₂ (1/4) FTIR
- H₂ (1/4) Raman
- H₂ (1/4) Photoluminescence spectroscopy
- Fast H in plasma including microwave and rt-plasmas
- Rt-plasma with filament and discharge
- Afterglow
- Highly pumped states
- H inversion
- Power with multiple solid fuels chemistries
- SunCell® energetic plasma
- ToF-SIMS and ESI-ToF identification of hydrino hydride compounds
- Solid H NMR
- H (1/4) spin-nuclear hyperfine transition
- Electricity gain over theoretical in CIHT cells

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

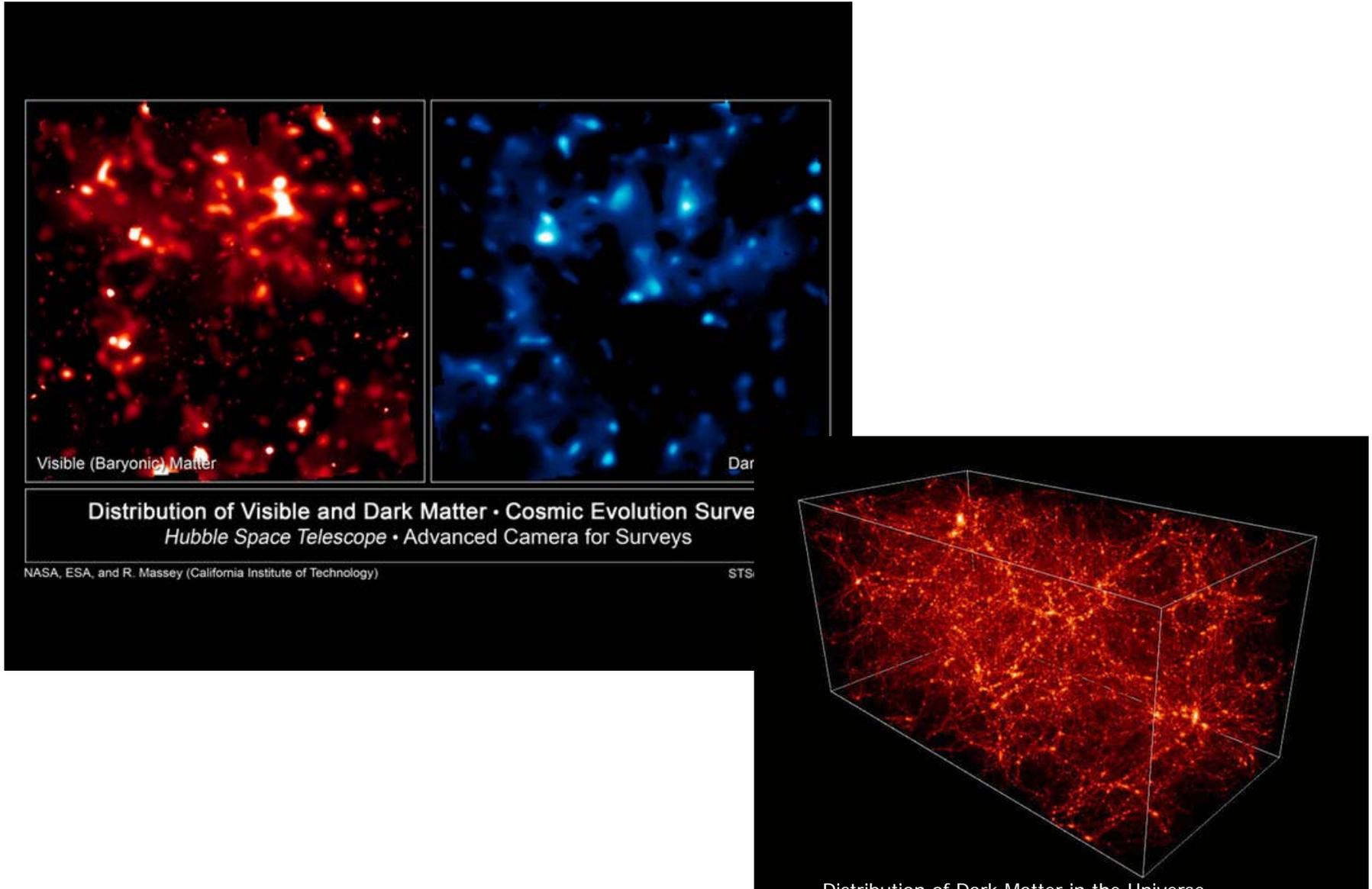
Catalytic Reaction of Atomic Hydrogen to Hydrino[®]



The Hydrino® and the Sun's corona

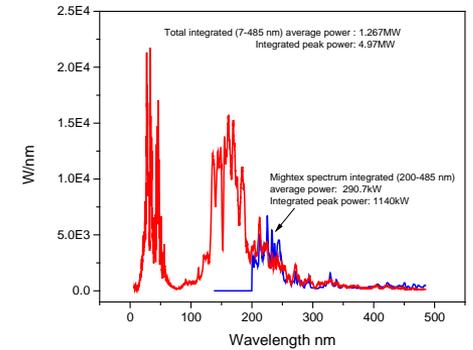
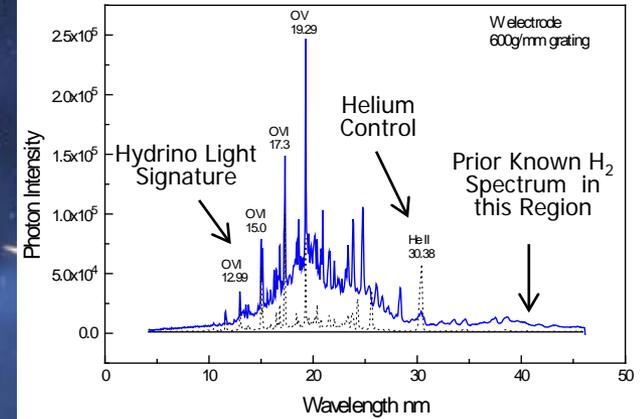
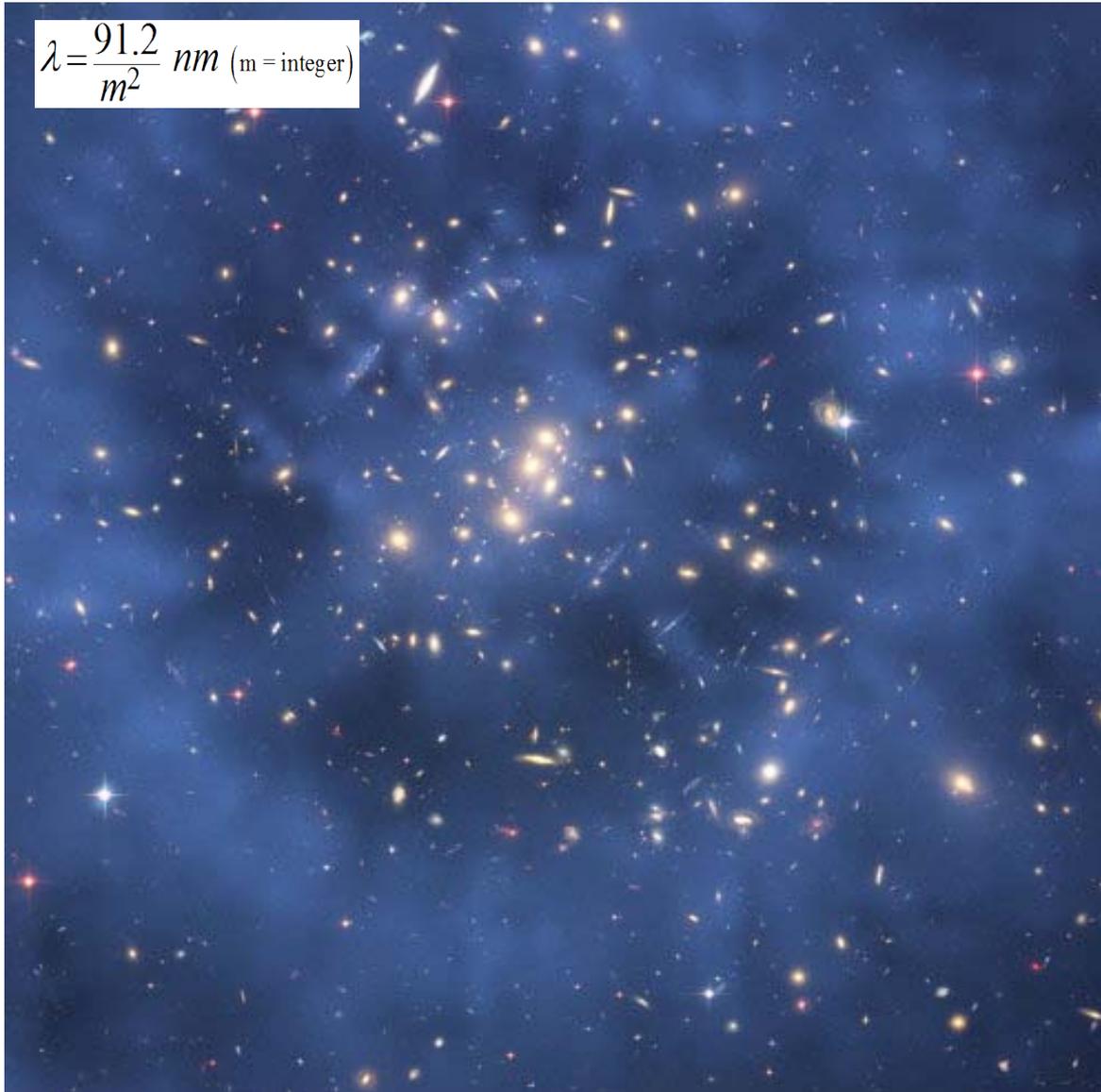


Dark Matter: The Hydrino[®] observed in nature



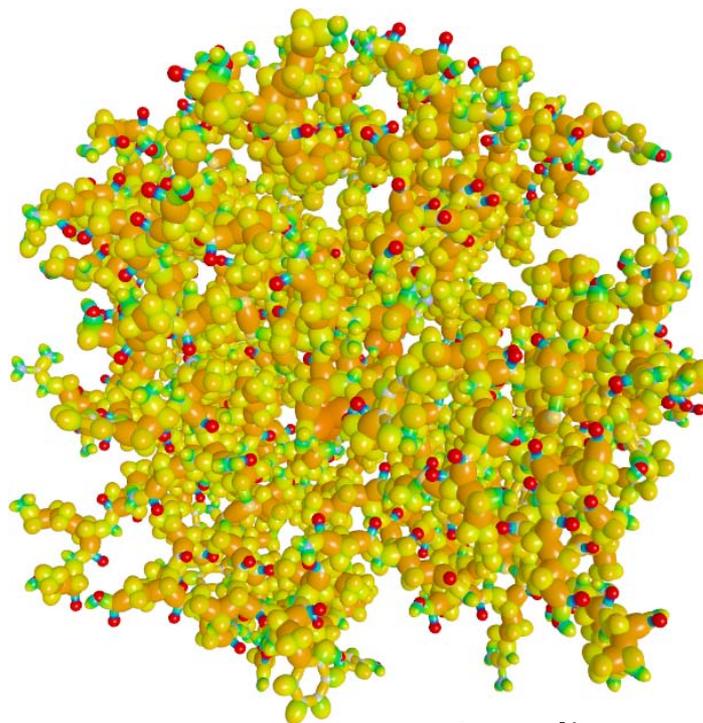
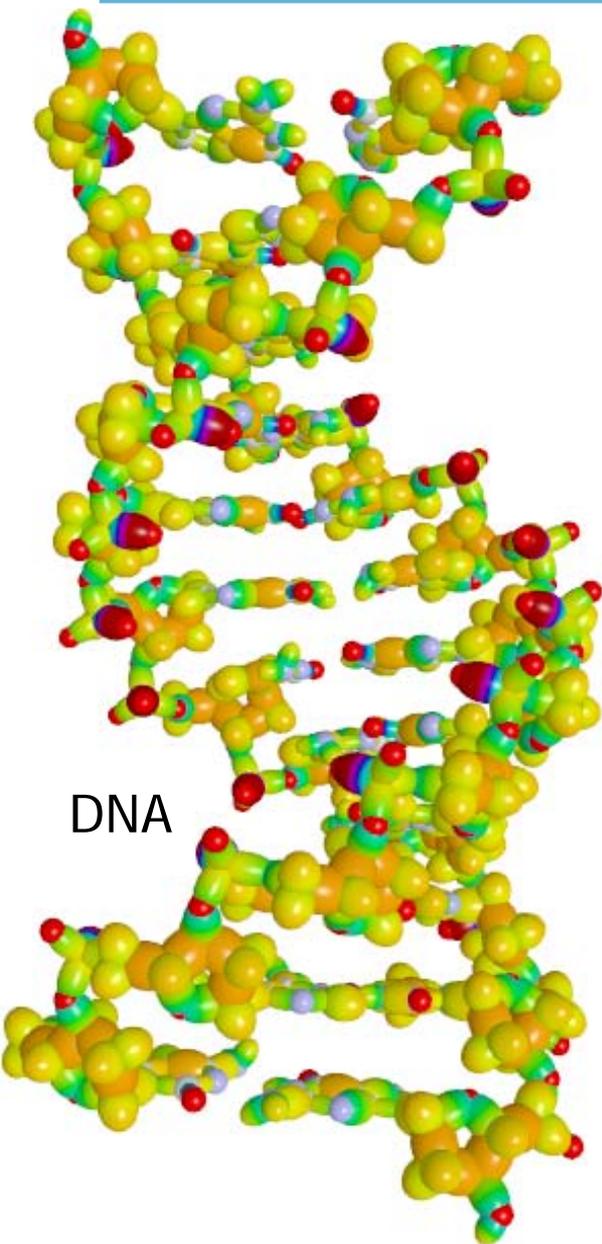
Dark Matter ring in galaxy cluster

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



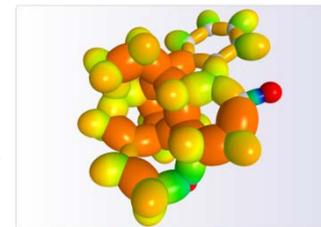
Theory Based on Classical Laws

Millsian 2.0: Modeling Molecules

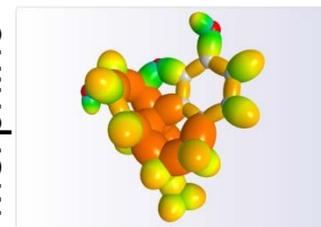


Insulin

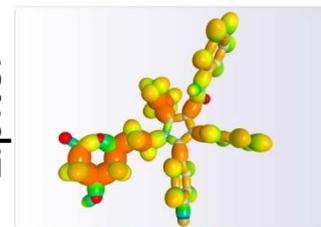
Strychnine



Morphine



Lipitor

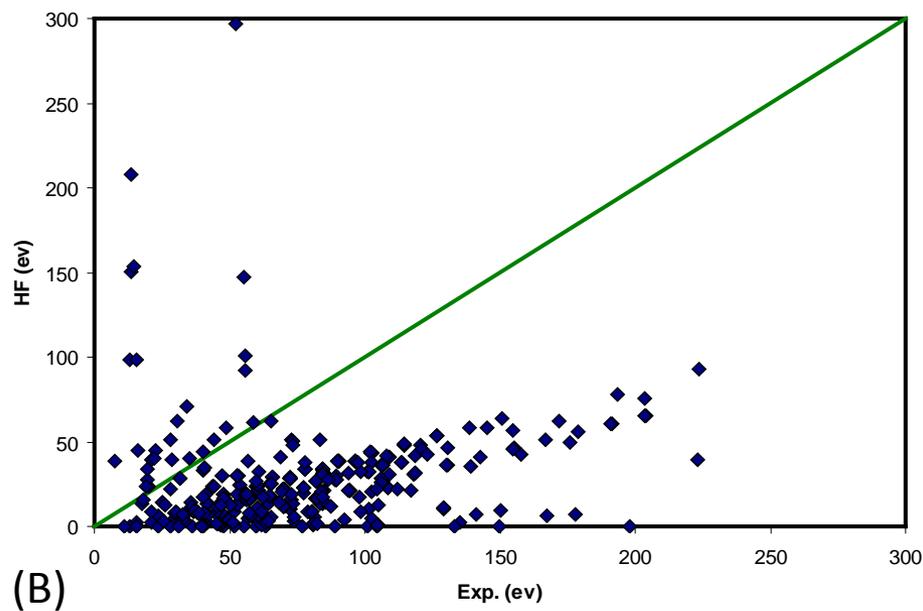
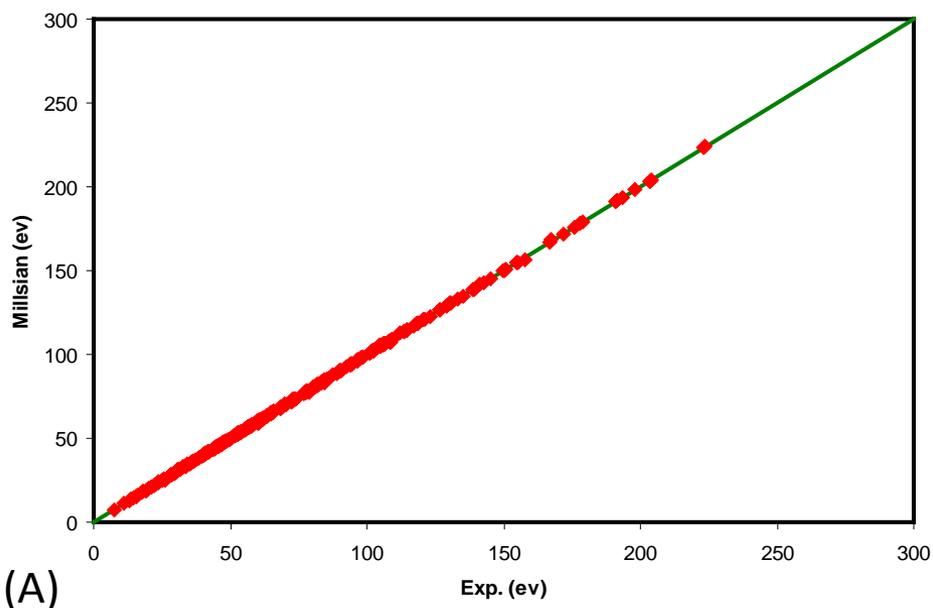


RNA



Comparison of Classical to Quantum Mechanical Performance

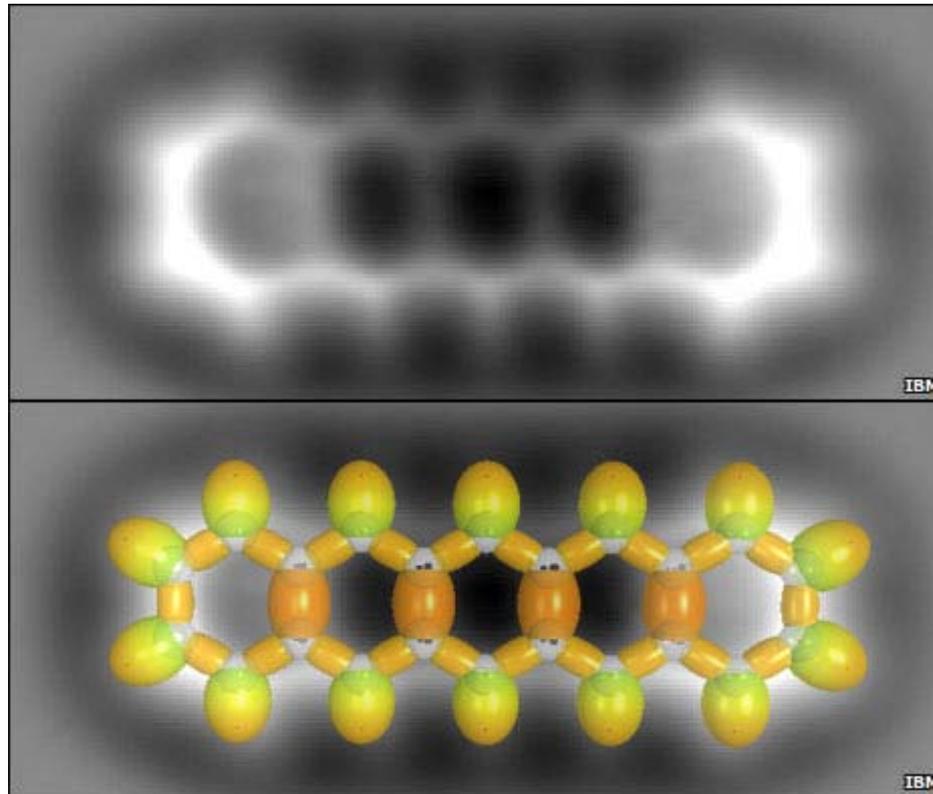
The total bond energies of exact classical solutions of 415 molecules generated by Millsian 1.0 and those from a modern quantum mechanics-based program, Spartan's pre-computed database using 6-31G* basis set at the Hartree-Fock level of theory, were compared to experimental values. (A) The Millsian results 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.



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.]

Identification of Molecular Hydrino

by the Gold Standard:

Rotational Energies

that Match the Predicted p^2 energies of H_2

Exact Closed-Form Solutions of H_2^+ and H_2

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

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

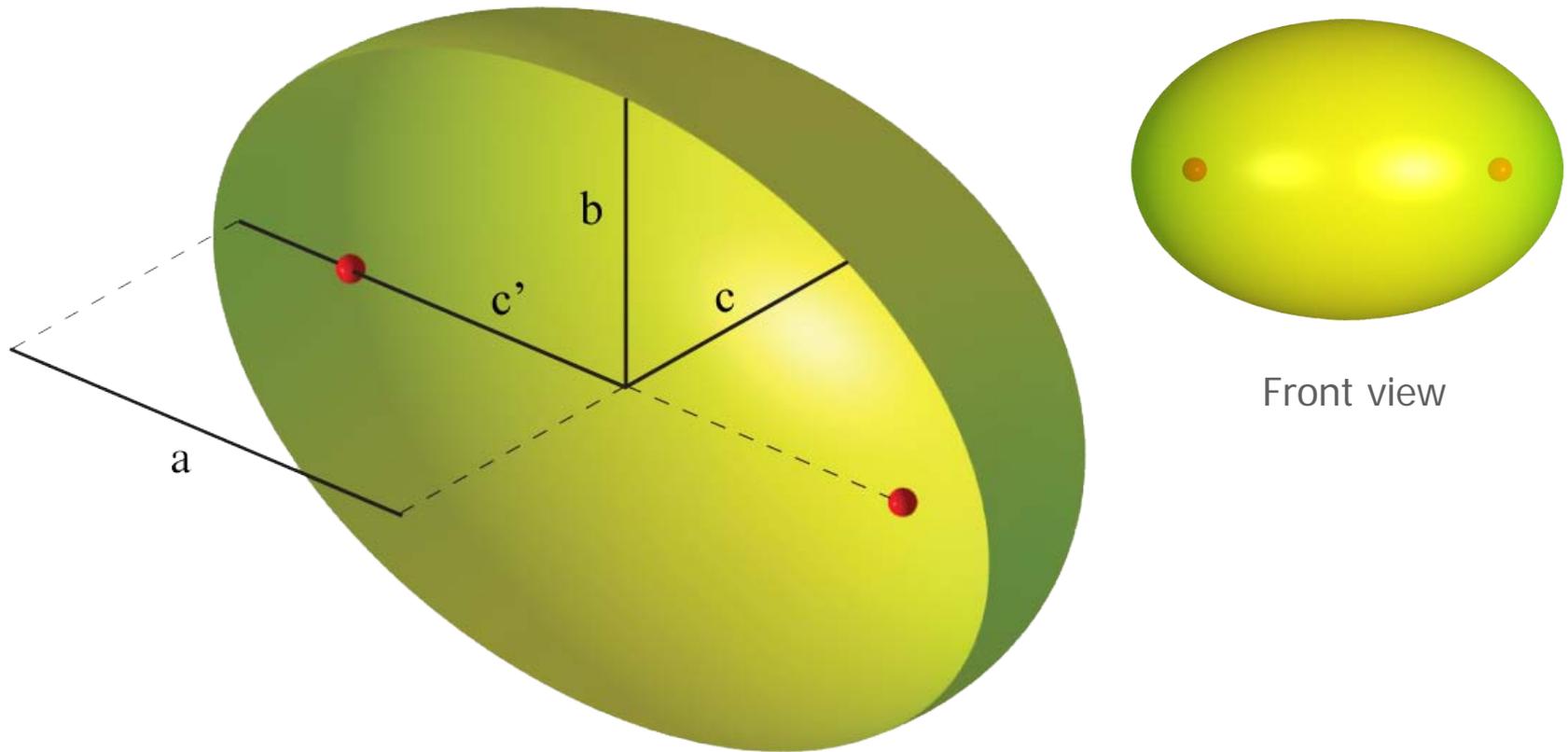
The total energy of the hydrogen molecular ion having a central field of $+pe$ at each focus of the prolate spheroid molecular orbital

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

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

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

The Nature of the Chemical Bond of Hydrogen cont'd

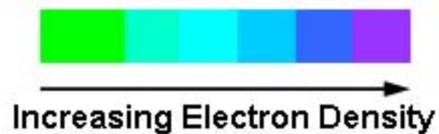
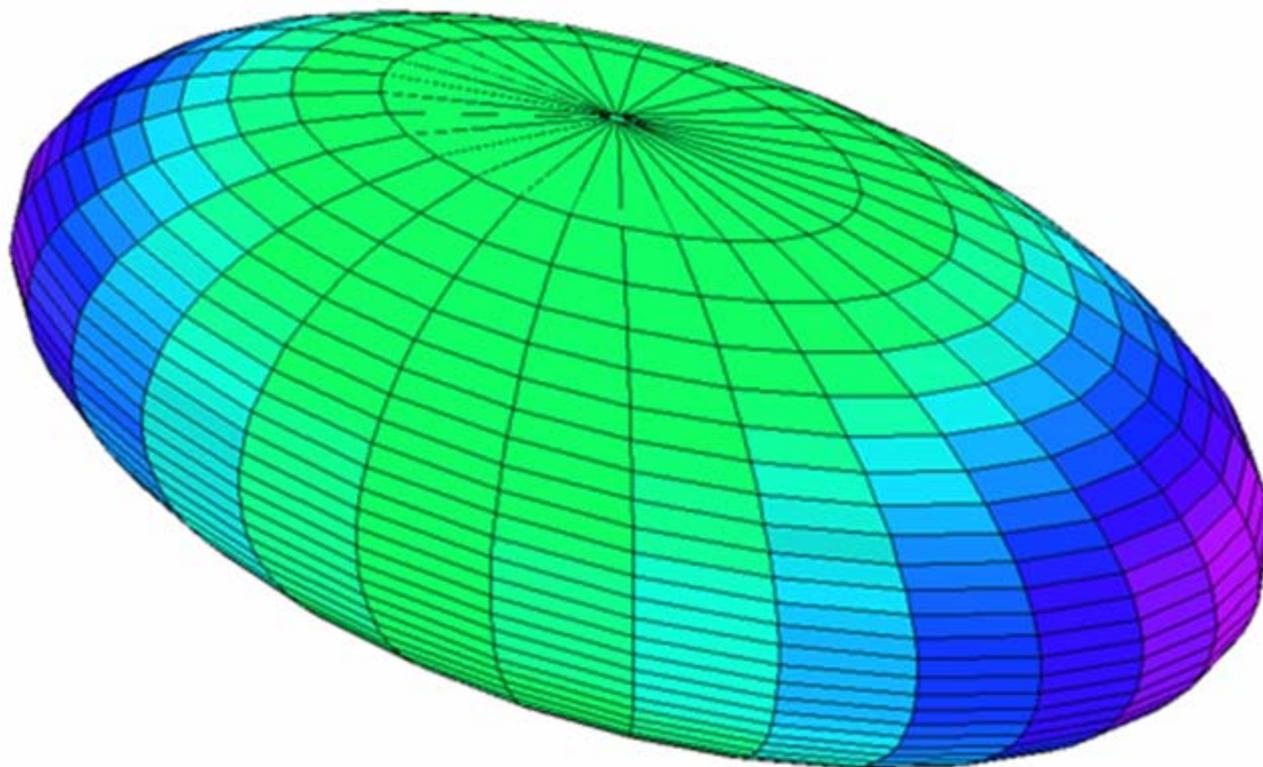


The Internuclear Distance, $2c'$, which is the distance between the foci is $2c' = \sqrt{2}a_o$.

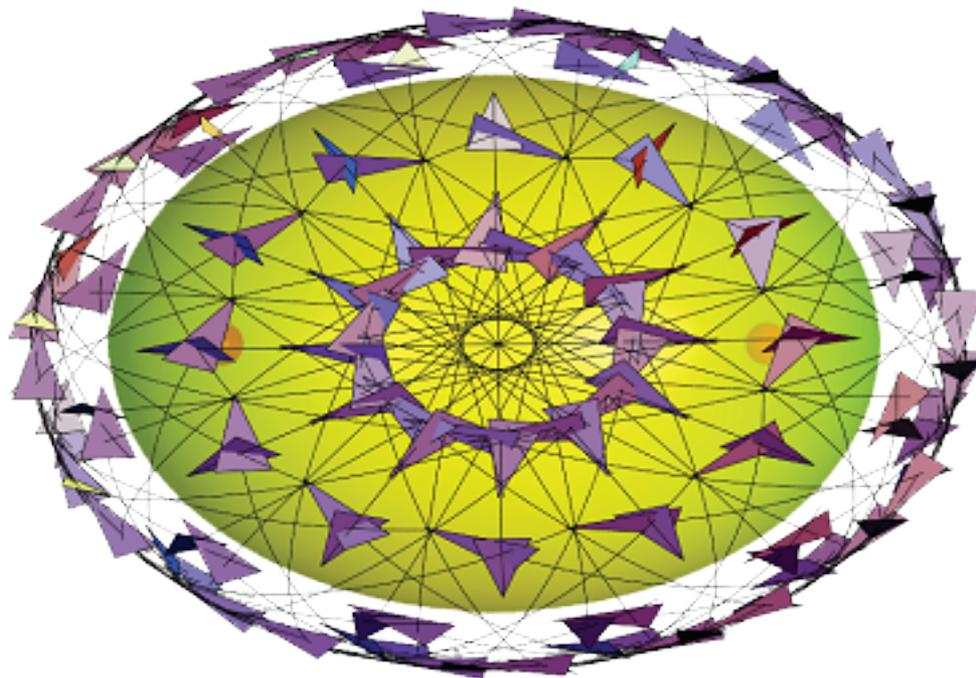
The experimental internuclear distance is $\sqrt{2}a_o$.

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^+

The calculated and experimental parameters of H_2 , D_2 , H_2^+ and D_2^+ .				
Parameter	Calculated	Experimental	Eqs. ^a	
H_2 Bond Energy	4.478 eV	4.478 eV	12.251	
D_2 Bond Energy	4.556 eV	4.556 eV	12.253	
H_2^+ Bond Energy	2.654 eV	2.651 eV	12.220	
D_2^+ Bond Energy	2.696 eV	2.691 eV	12.222	
H_2 Total Energy	31.677 eV	31.675 eV	12.247	
D_2 Total Energy	31.760 eV	31.760 eV	12.248	
H_2 Ionization Energy	15.425 eV	15.426 eV	12.249	
D_2 Ionization Energy	15.463 eV	15.466 eV	12.250	
H_2^+ Ionization Energy	16.253 eV	16.250 eV	12.218	
D_2^+ Ionization Energy	16.299 eV	16.294 eV	12.219	
H_2^+ Magnetic Moment	$9.274 \times 10^{-24} \text{ JT}^{-1}$	$9.274 \times 10^{-24} \text{ JT}^{-1}$	14.1-14.7	
Absolute H_2 Gas-Phase NMR Shift	μ_B -28.0 ppm	μ_B -28.0 ppm	12.362	
H_2 Internuclear Distance ^b	0.748 Å $\sqrt{2}a_0$	0.741 Å	12.238	
D_2 Internuclear Distance ^b	0.748 Å $\sqrt{2}a_0$	0.741 Å	12.238	
H_2^+ Internuclear Distance ^c	1.058 Å $2a_0$	1.06 Å	12.207	
D_2^+ Internuclear Distance ^b	1.058 Å $2a_0$	1.0559 Å	12.207	
H_2 Vibrational Energy	0.517 eV	0.516 eV	12.259	
D_2 Vibrational Energy	0.371 eV	0.371 eV	12.264	
H_2 $\omega_e x_e$	120.4 cm^{-1}	121.33 cm^{-1}	12.261	
D_2 $\omega_e x_e$	60.93 cm^{-1}	61.82 cm^{-1}	12.265	
H_2^+ Vibrational Energy	0.270 eV	0.271 eV	12.228	
D_2^+ Vibrational Energy	0.193 eV	0.196 eV	12.232	
H_2 J=1 to J=0 Rotational Energy ^b	0.0148 eV	0.01509 eV	14.45	
D_2 J=1 to J=0 Rotational Energy ^b	0.00741 eV	0.00755 eV	14.37-14.45	
H_2^+ J=1 to J=0 Rotational Energy ^b	0.00740 eV	0.00739 eV	14.49	
D_2^+ J=1 to J=0 Rotational Energy ^c	0.00370 eV	0.003723 eV	14.37-14.43, 14.49	

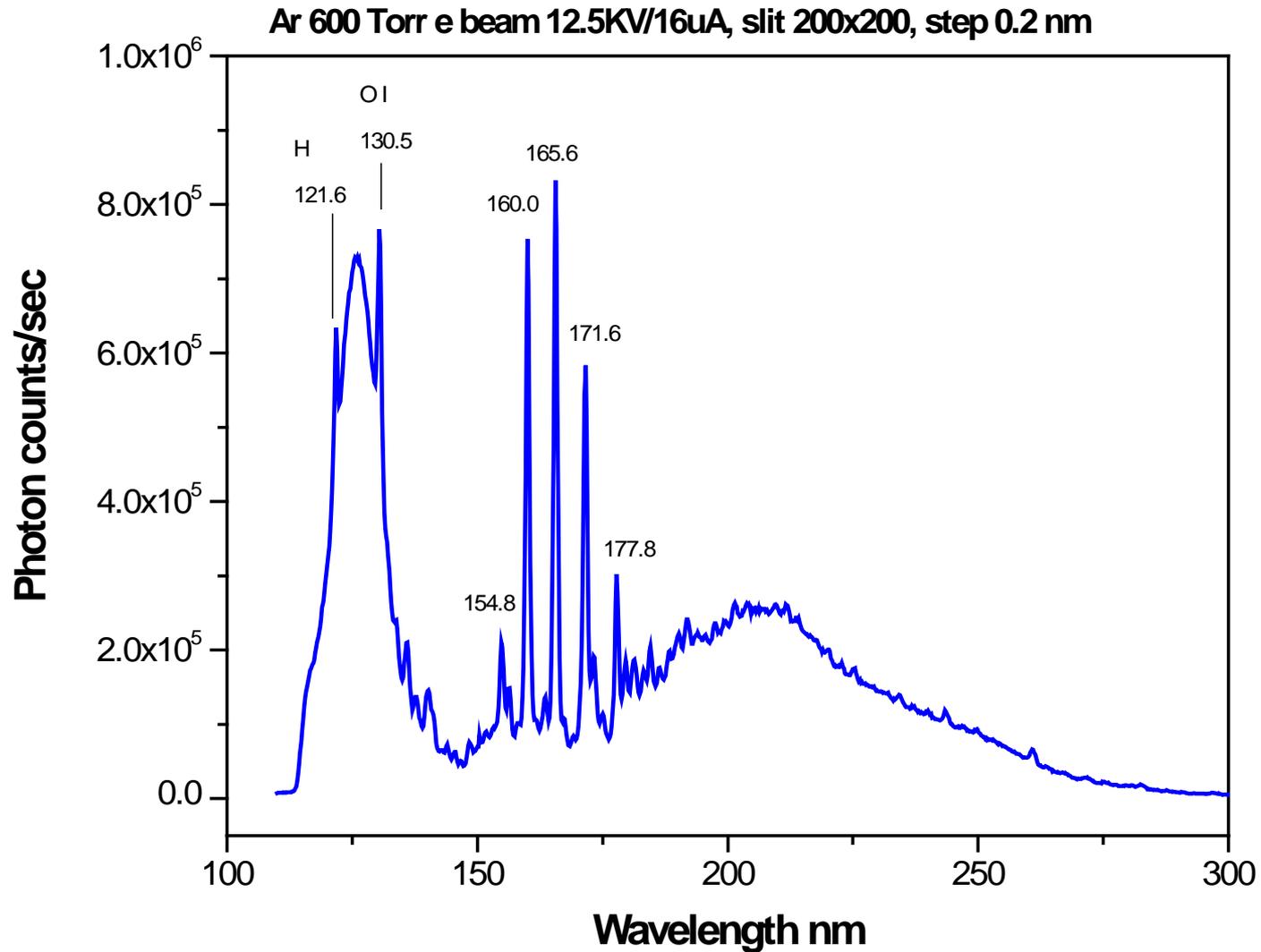
^a R. Mills, *The Grand Unified Theory of Classical Quantum Mechanics*, September 2001 Edition, BlackLight Power, Inc., Cranbury, New Jersey, Distributed by Amazon.com; January (2003) Edition posted at www.blacklightpower.com.

^b The internuclear distances are not corrected for the reduction due to \bar{E}_{osc} .

^c The internuclear distances are not corrected for the increase due to \bar{E}_{osc} .

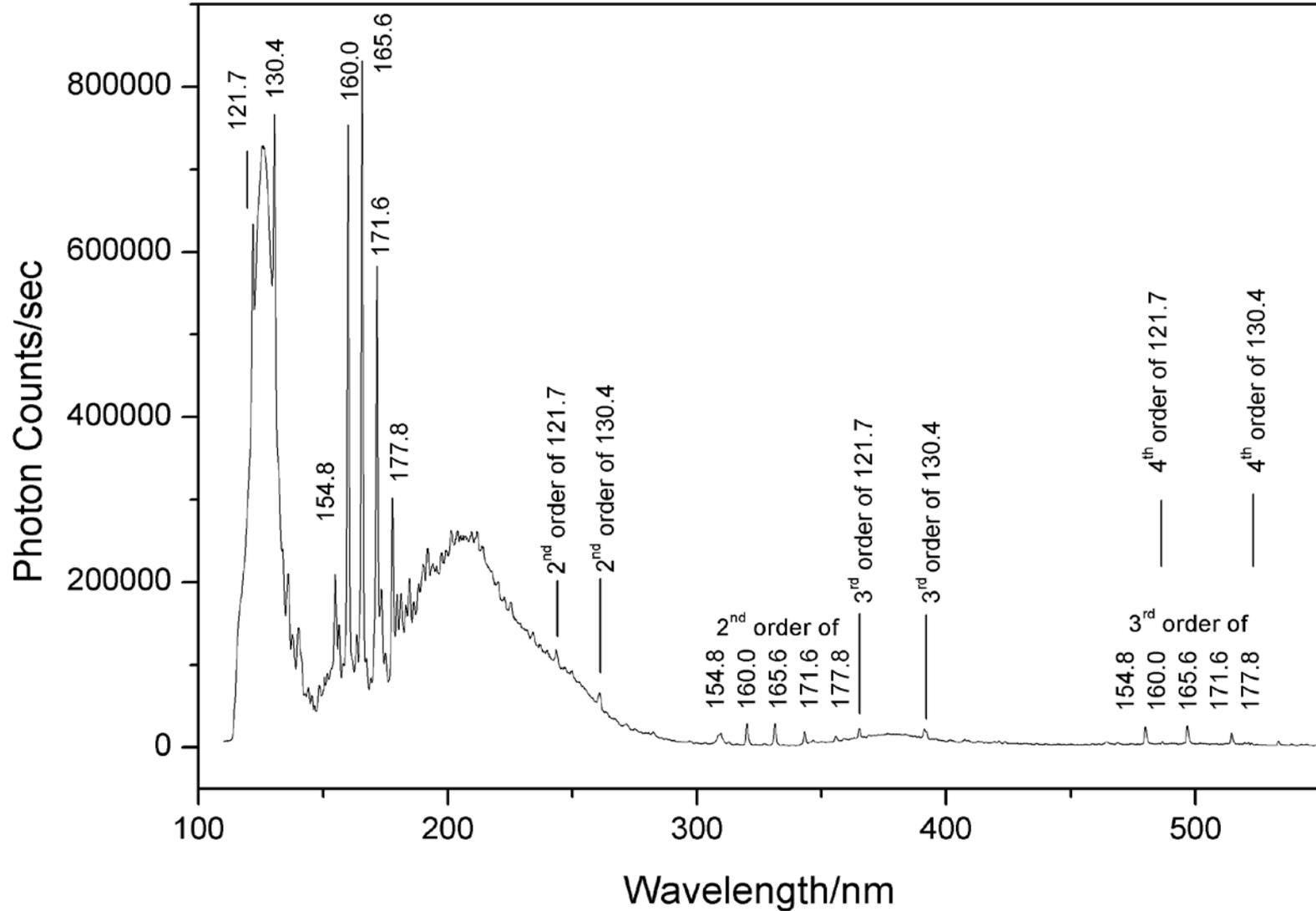
HOH-Argon E-beam Emission Hydrino H₂(1/4) Ro-vibrational P Branch

N101403/2004

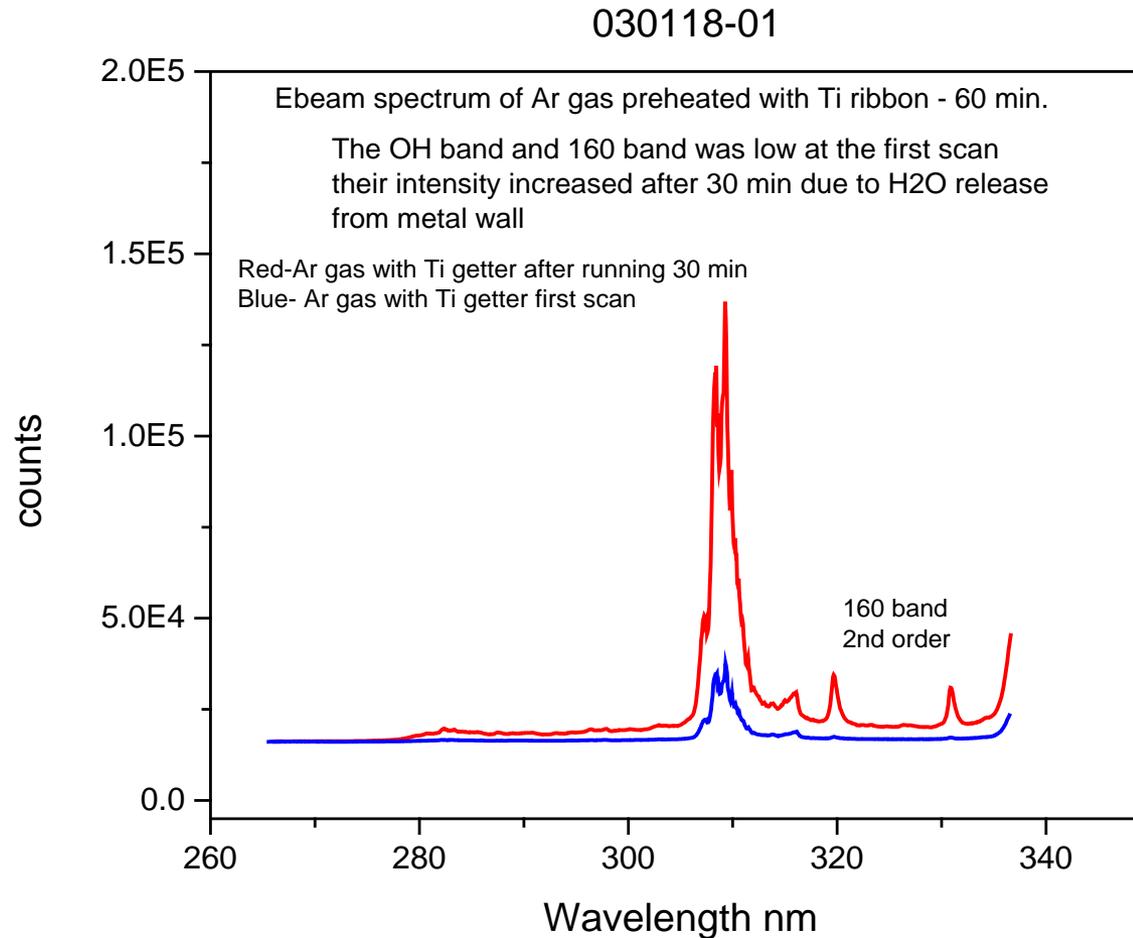


HOH-Argon E-beam Emission

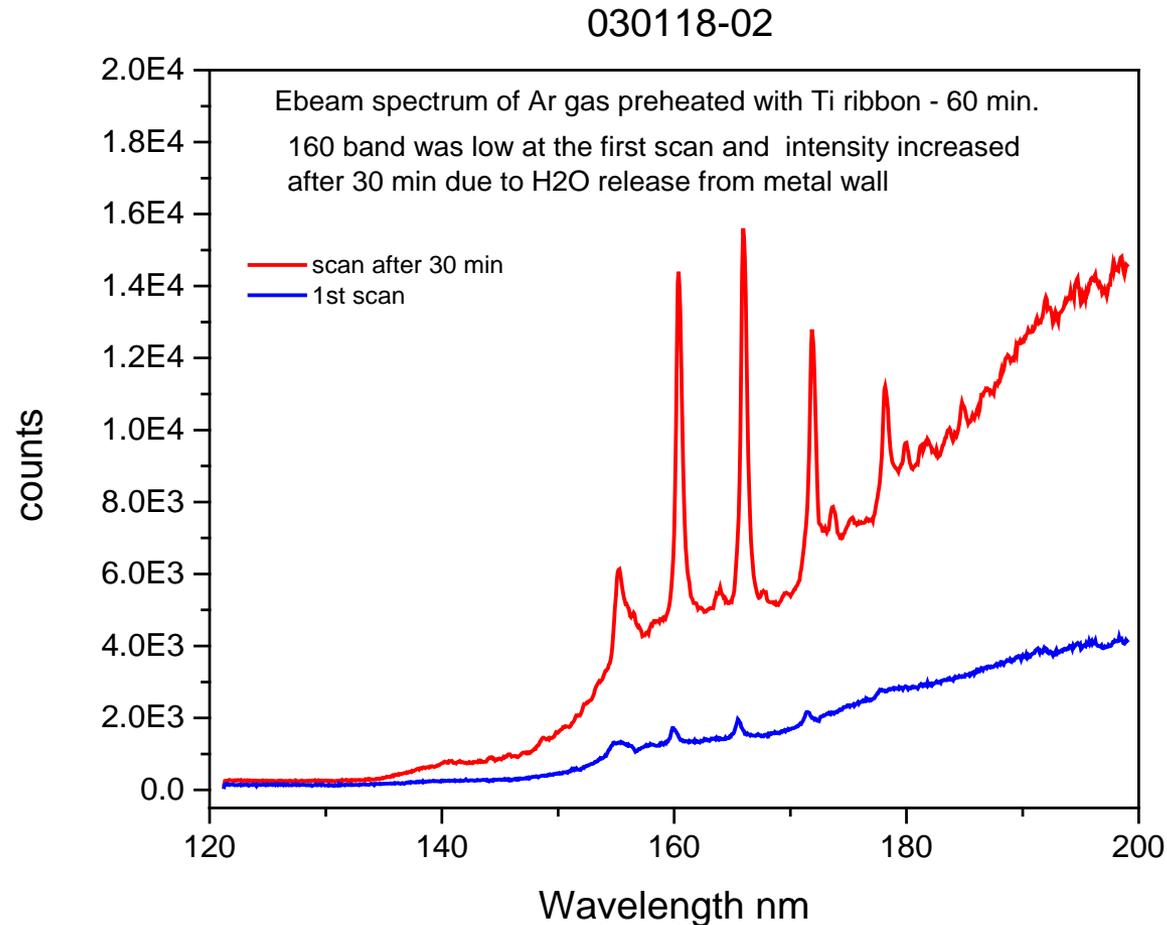
Hydrino H₂(1/4) Ro-vibrational P Branch



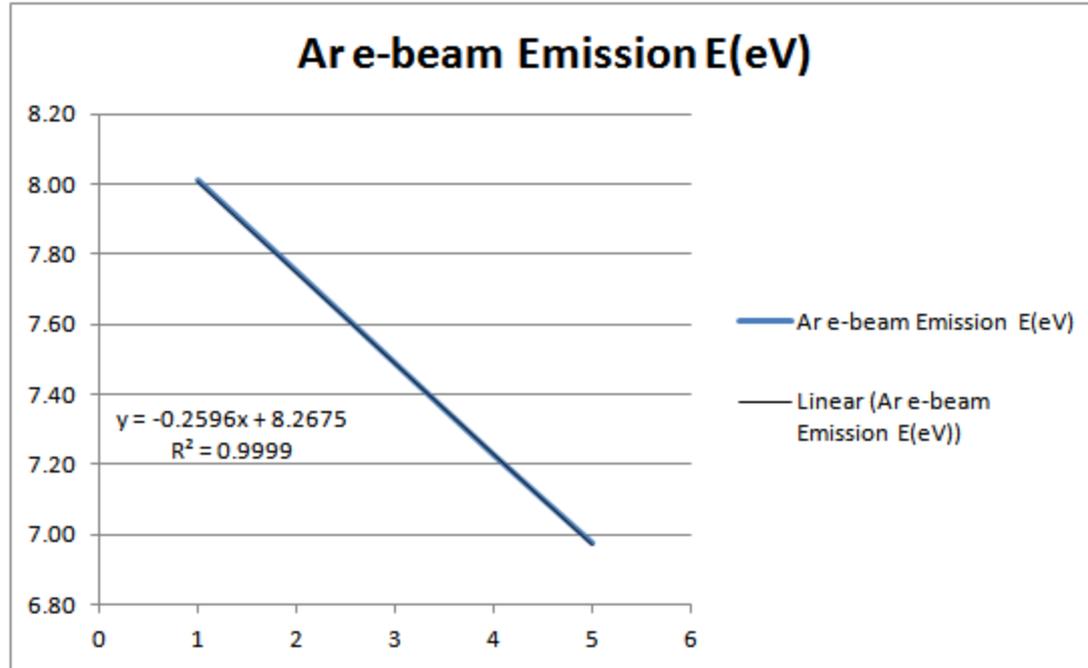
HOH Catalyst Confirmation by Relationship of the Corresponding OH-band Intensity to the Molecular Hydrino $H_2(1/4)$ Ro-vibrational Band



HOH Catalyst Confirmation by Relationship of the Corresponding OH-band Intensity to the Molecular Hydrino $H_2(1/4)$ Ro-vibrational Band

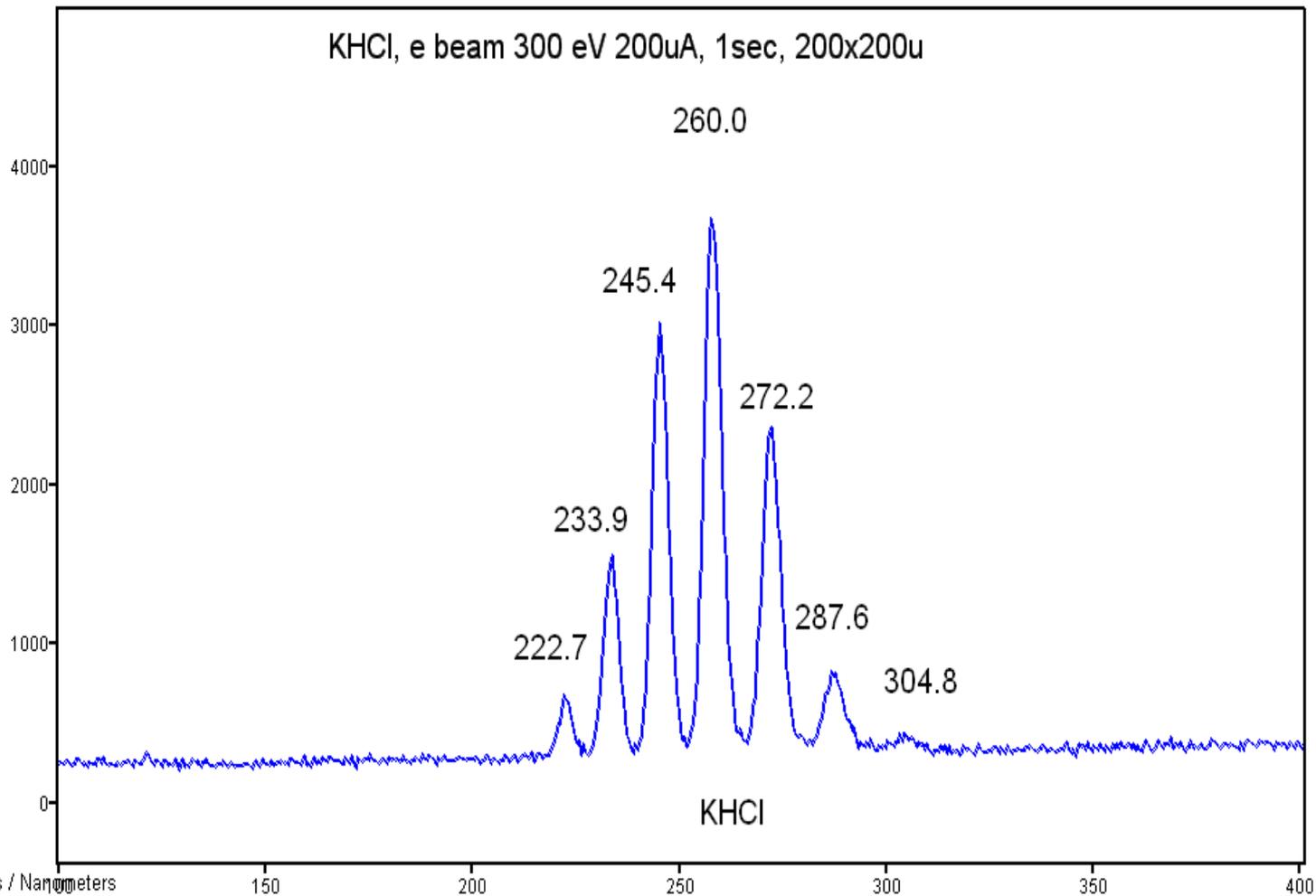


HOH-Argon E-beam Emission Linear Regression



From Ar spectra N104403/2004		
J	e-beam lambda (nm)	Ar e-beam Emission E(eV)
1	154.8	8.01
2	160.0	7.75
3	165.6	7.49
4	171.6	7.23
5	177.8	6.97
Slope =		-0.2596
Intercept =		8.2675

E-beam Emission Hydrino H₂(1/4) Ro-vibrational P Branch

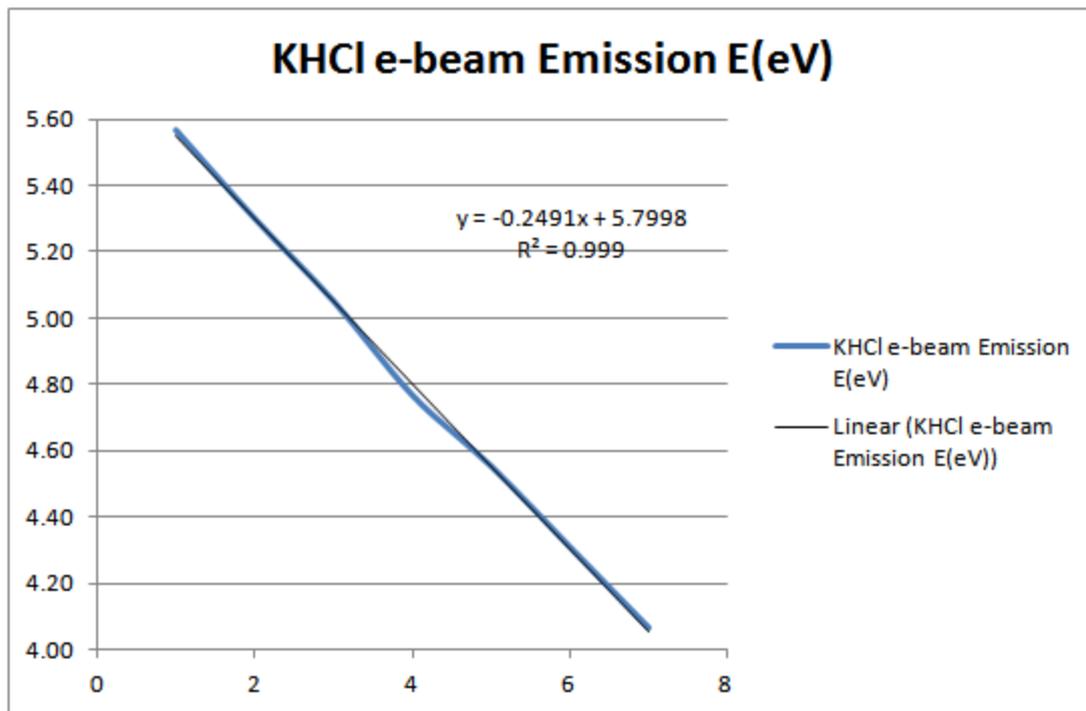


File #1 = N6030501

6/3/2005 10:10 AM Res=0.500nm.

Memo area

E-beam Emission Linear Regression



From KHCl spectra N6030501 6/3/2005

J	e-beam lambda (nm)	KHCl e-beam Emission E(eV)
1	222.7	5.57
2	233.9	5.30
3	245.4	5.05
4	260.0	4.77
5	272.2	4.55
6	287.6	4.31
7	304.8	4.07

Slope = -0.2491
Intercept = 5.7998

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 given as (Eq. 11.223 of Ref [1]):

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

- The rotational energies, E_{rot} , for the J to $J+1$ transition of hydrogen molecules $H_2(1/p)$ is given as (Eq. 12.74 of Ref [1]):

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

- For example, for hydrogen and the first five hydrino states, this yields predicted vibrational ($v=0$ to 1) and rotational ($J=0$ to 1) energies of:

p	State (H2(1/p))	Vibrational Energy (eV)	Rotational Energy (eV)
1	H2	0.5159	0.01509
2	H2(1/2)	2.0636	0.06036
3	H2(1/3)	4.6431	0.13581
4	H2(1/4)	8.2544	0.24144
5	H2(1/5)	12.8976	0.37725
6	H2(1/6)	18.5725	0.54324

Gas and Impregnated Crystal E-beam Emission Assignment

- 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 $H_2(1/4)$.

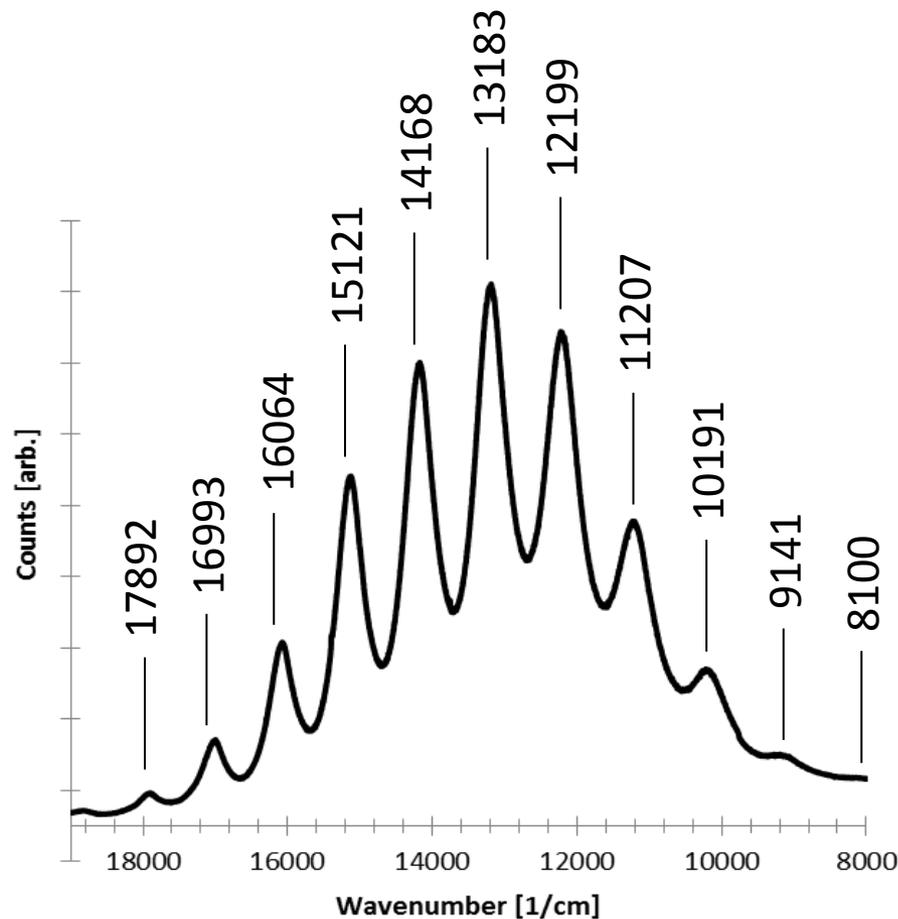
H2(1/4) in Ar	Experimental Value (eV)	Theoretical Value (eV)
Vibrational Energy ($\nu = 0$ to 1)	8.2675	8.2544
Rotational Energy ($J = 0$ to 1)	0.2596	0.2414

H2(1/4) in KCl	Experimental Value (eV)	Theoretical Value (eV)
Vibrational Energy ($\nu = 0$ 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/>

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

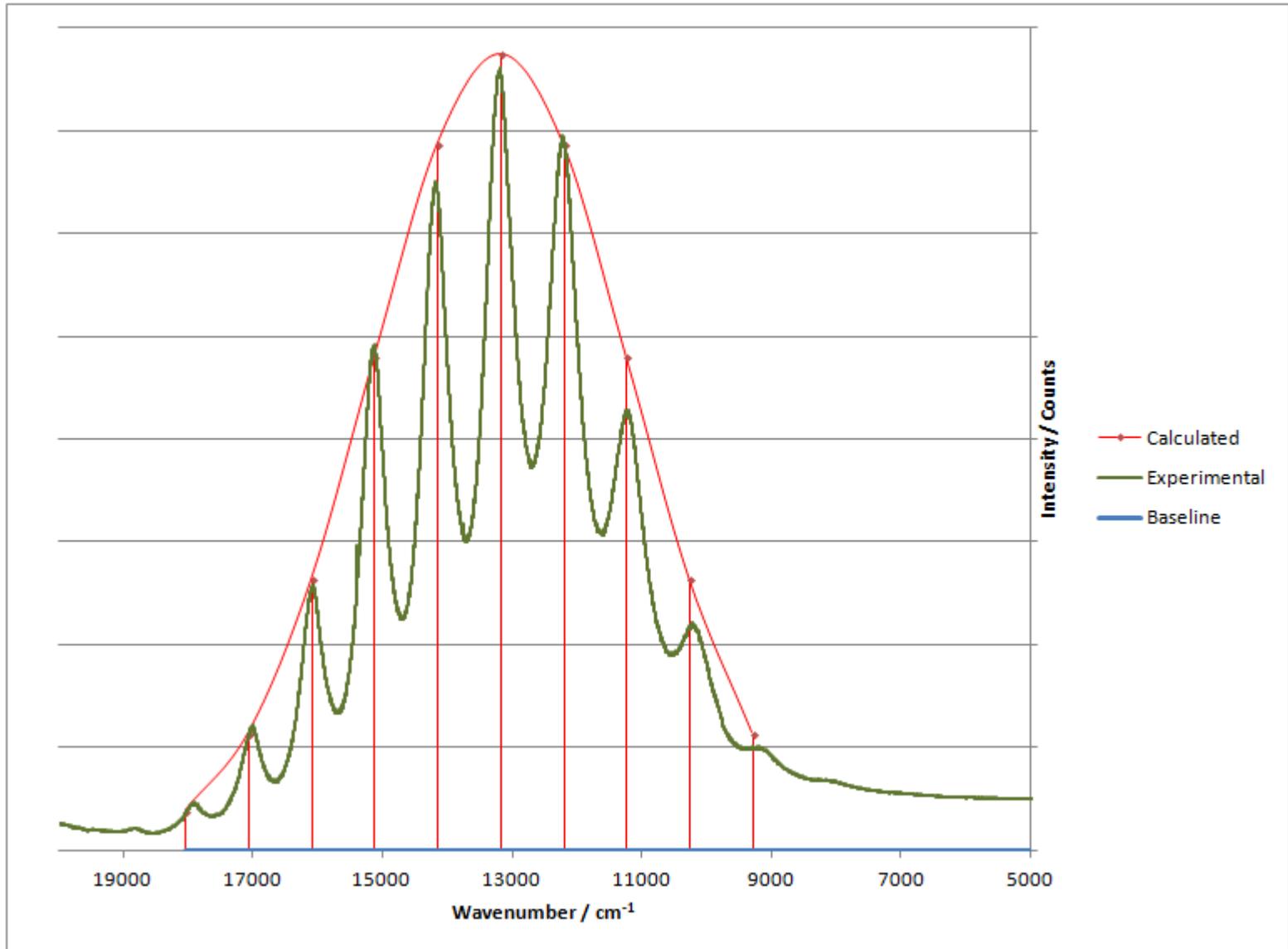


Raman-mode second-order photoluminescence spectrum of the KOH-KCl (1:1 wt.) getter exposed to a solid fuel initiation of samples of 70mg Cu with 30mg deionized water contained in a 75mg Al crucible in an Ar atmosphere using a Horiba Jobin Yvon LabRam ARAMIS 325nm laser.

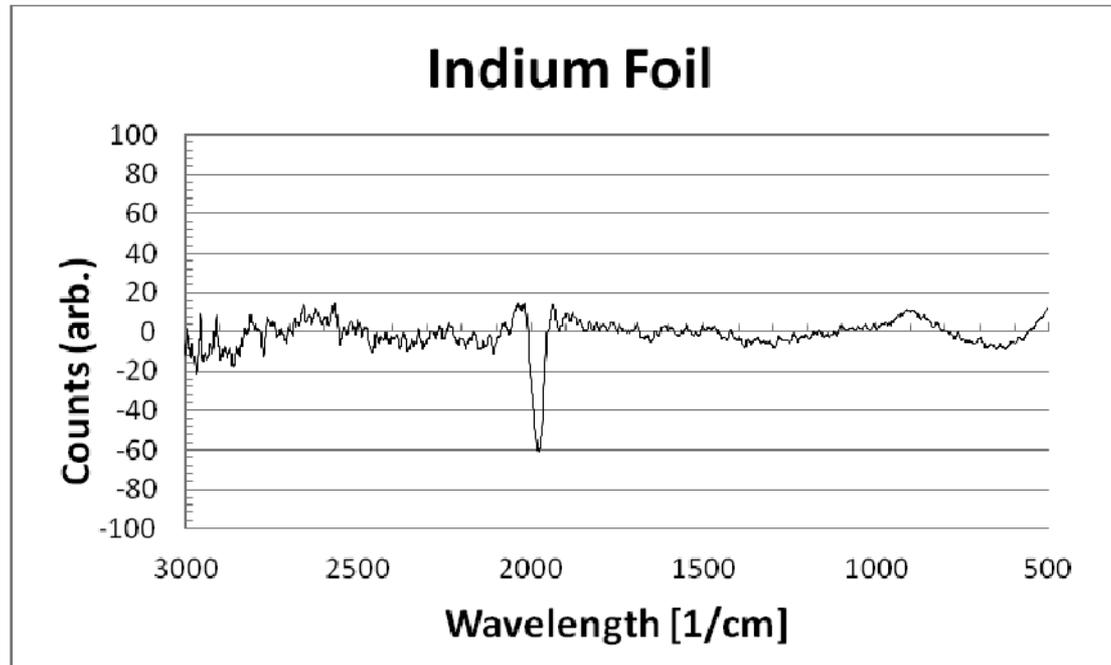
Comparison of the Transition Energies and Transition Assignments with the Observed Raman Peaks

Assignment	Calculated (cm ⁻¹)	Experimental (cm ⁻¹)	Difference (%)
P(5)	18,055	17,892	0.91
P(4)	17,081	16,993	0.52
P(3)	16,107	16,064	0.27
P(2)	15,134	15,121	0.08
P(1)	14,160	14,168	-0.06
Q(0)	13,186	13,183	0.02
R(0)	12,212	12,199	0.11
R(1)	11,239	11,207	0.28
R(2)	10,265	10,191	0.73
R(3)	9,291	9,141	1.65
R(4)	8,318	8,100	2.69

Plot Comparison Between the Theoretical Energies and Observed Raman Spectral Assignments

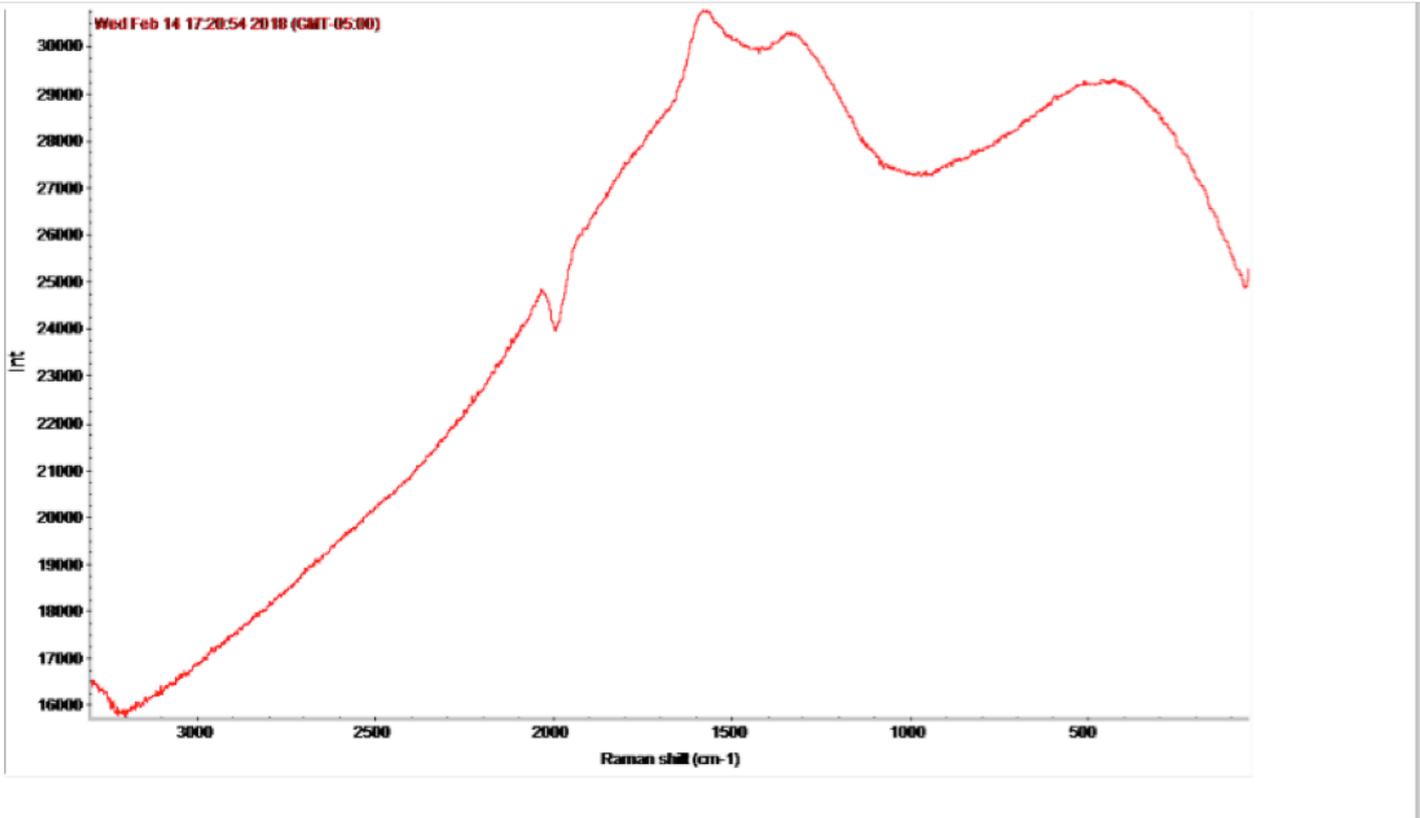


Raman Confirmation of Molecular Hydrino of $H_2(1/4)$ Rotational Energy



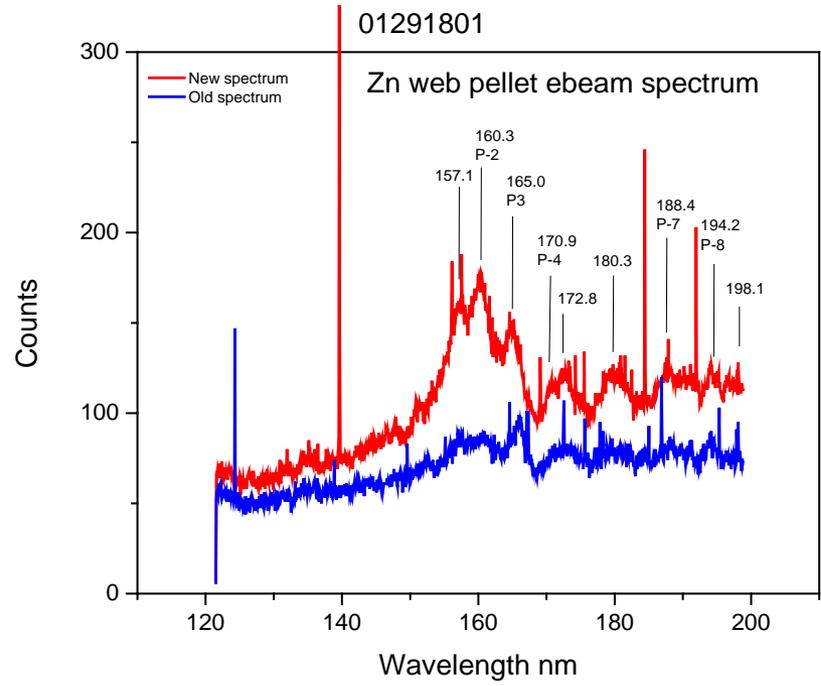
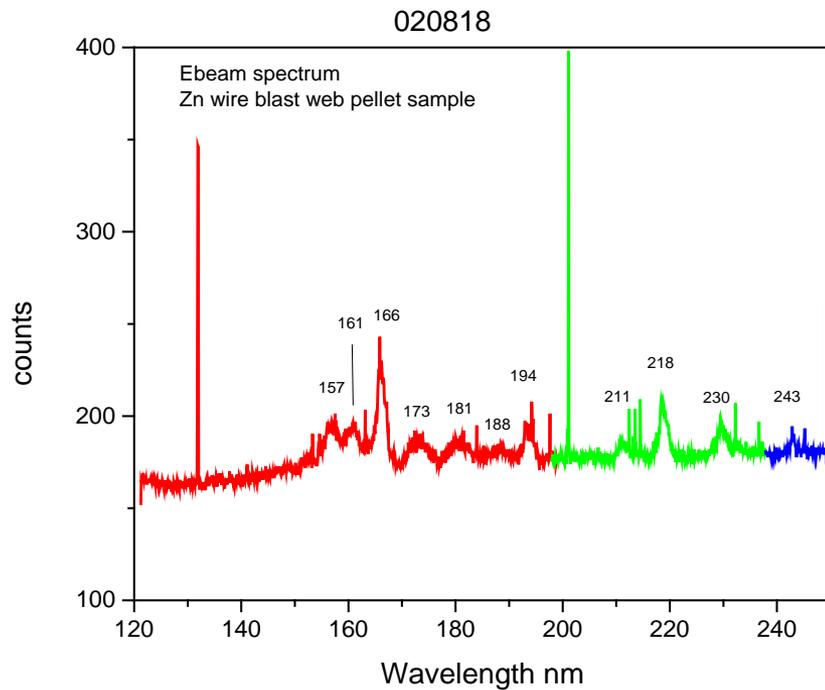
The Raman spectrum obtained on a In metal foil exposed to the product gas from a series of solid fuel ignitions under argon, each comprising 100 mg of Cu mixed with 30 mg of deionized water. Using the Thermo Scientific DXR SmartRaman spectrometer and the 780 nm laser, the spectrum showed an inverse Raman effect peak at 1982 cm^{-1} that matches the free rotor energy of $H_2(1/4)$ (0.2414 eV) to four significant figures.

Raman Confirmation of Molecular Hydrino of H₂(1/4) Rotational Energy of Hydrino Web Compound

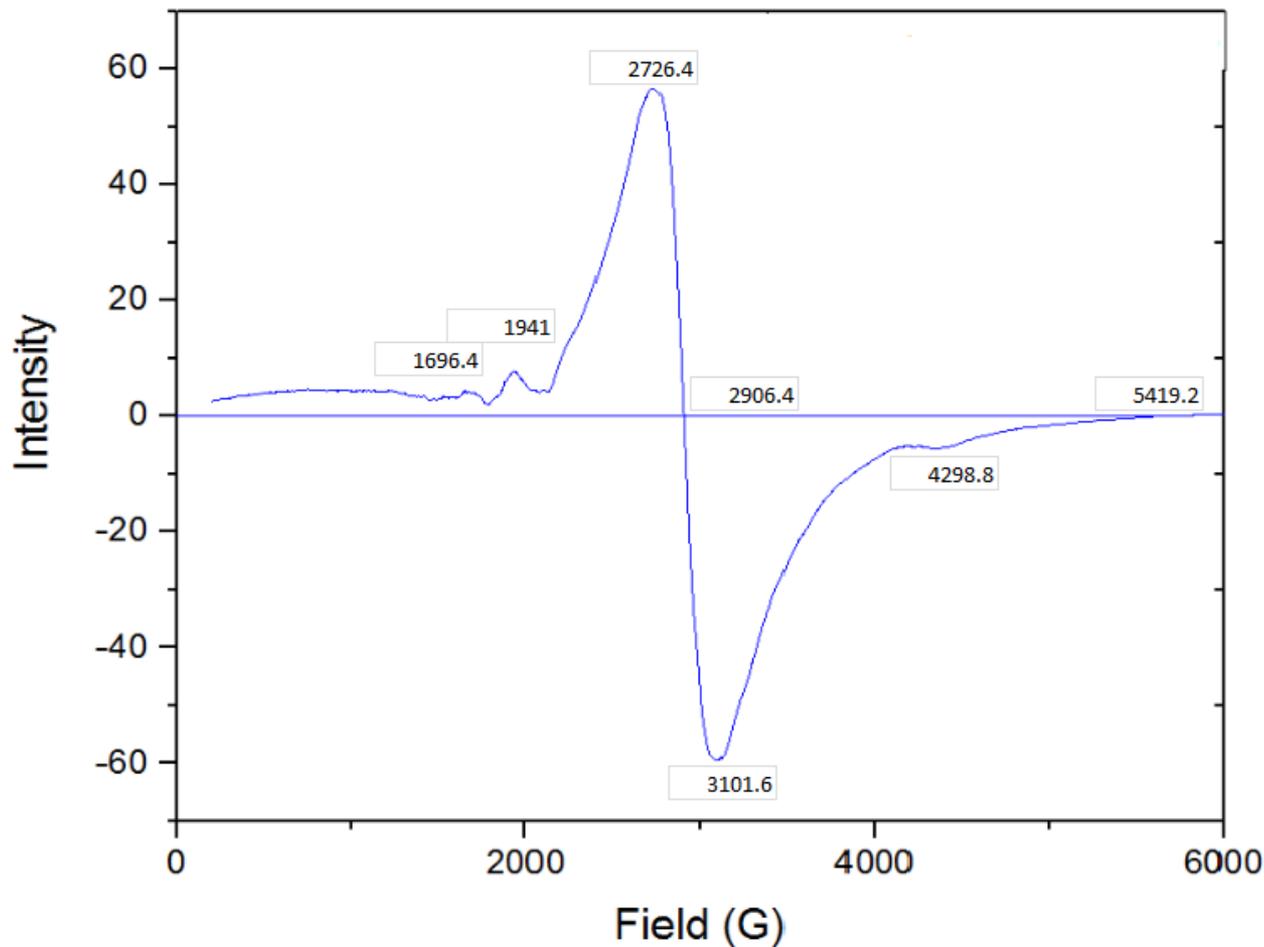


E-beam Emission

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

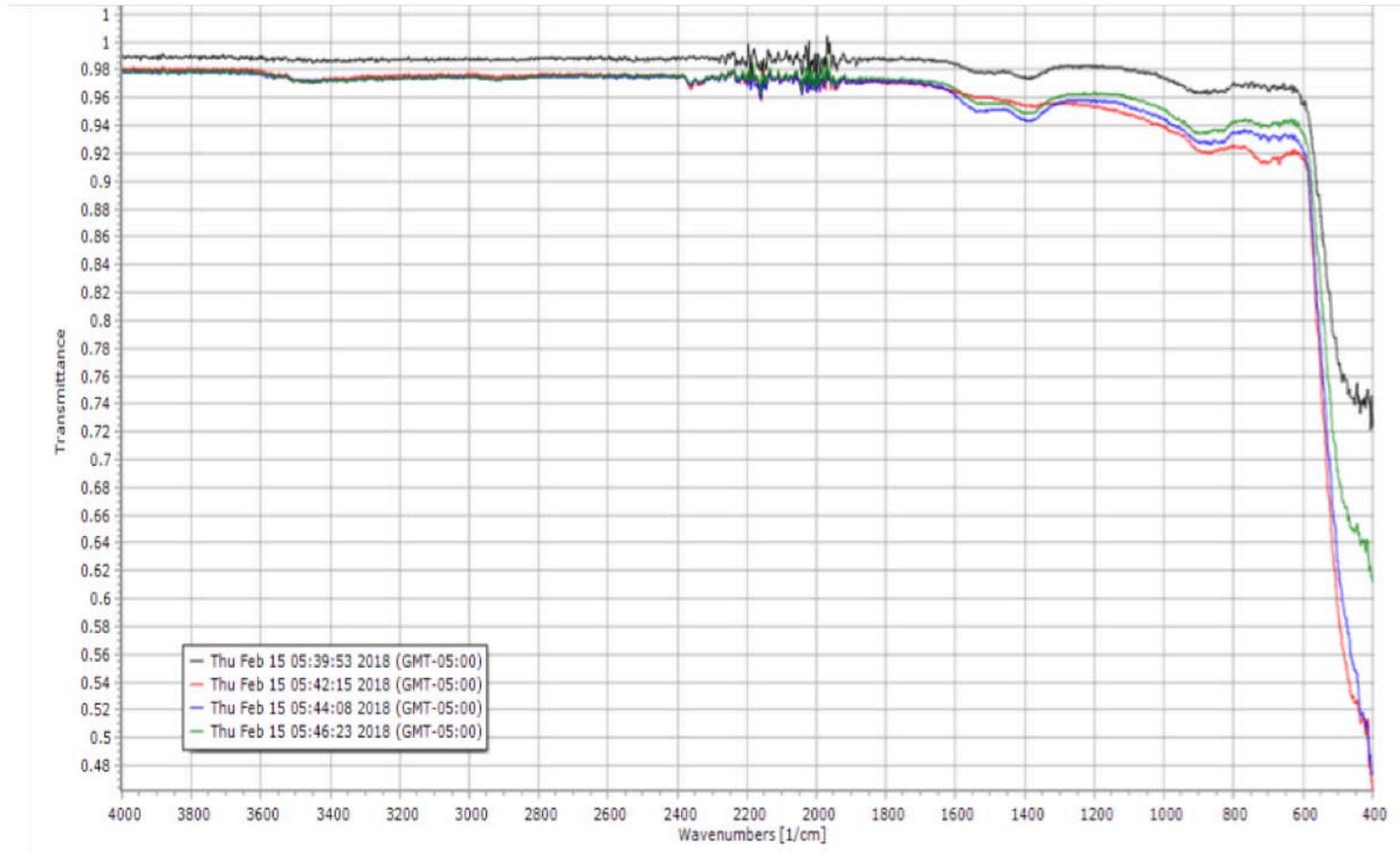


Extraordinary EPR Spectrum of Hydrino Web Compound



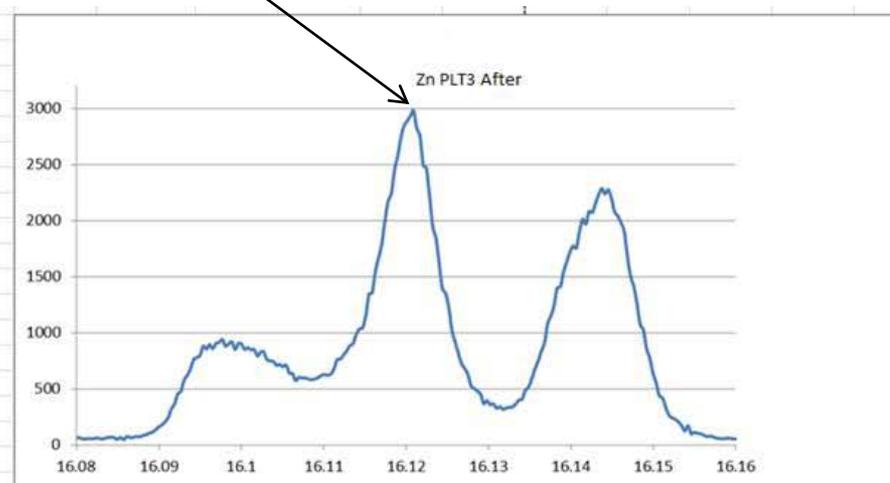
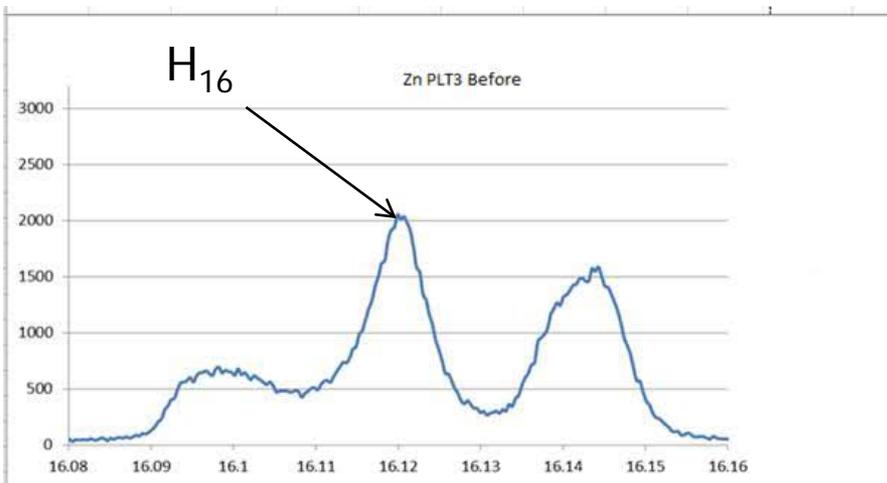
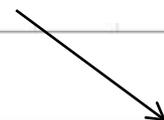
- $g_1 = 0.7002/0.1800 = 3.89$ and $\Delta H_1 = 122$ G, spin $I=1/2$ nuclear splitting, $g_2 = 0.7002/0.29064 = 2.41$, $\Delta H_2 = 375$ G, $g_3 = 0.7002/0.45 = 1.56$. The range of known EPR signals is 1.4 to 3.
- The main parameters of EPR spectrum hydroxyl and superoxide radicals: g-factor and line width ΔH , calculated from the EPR spectra are following: $g_1 = 2.0021$ and $\Delta H_1 = 1$ G, $g_2 = 2.0009$ and $\Delta H_2 = 0.8$ G.

Extraordinary FTIR of Hydrino Web Compound



ToF-SIMS shows H_{16}
TGA shows H_{16}

H_{16}



Validation

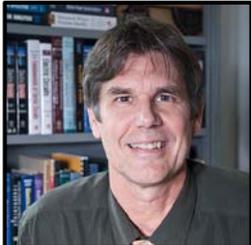
- Gold standard method of measuring power and energy balance of single hydrino fuel pellet ignition achieved using NIST calibrations and shunt circuit to overcome interference from electromagnetic pulse
- Results show 20 MW peak optical power as unique signature of a high energy continuum emission spectrum
- Results show energy gain of 200 to 500 times
- New paper to be published in noted science journal demonstrating methods for measuring power and gain from Hydrino® reaction optically and thermally using state of the art instruments
- Hydrino products identified by multiple analytical methods
- Foundation for National Labs experiments and conclusive proof of “better than fire” energy source
- Supports the SunCell® Automated Cell demonstration by showing the potential massive power density and gain of the hydrino power source that can be harnessed into applications by the SunCell with optimization
- Commercial and academic validation in progress

Ongoing Validation

- We have perfected state of the art optical power measurements and are near completion of advancing our calorimetric capabilities to the same gold standard caliber.
- Validation of our gold standard optical and calorimetric power measurements (<http://brilliantlightpower.com/wp-content/uploads/papers/Hydrino-Blast-Power-Paper-120517d.pdf>) by an expert is near completion with additional validators to follow.

Validation of Energy Gain by leading experts

<http://brilliantlightpower.com/validation-reports/>



Dr. Peter Jansson, Associate Professor Department of Electrical and Computer Engineering, Bucknell University, PhD from University of Cambridge, BA from MIT. Dr. Jansson has expertise in the research and development of electric power system fundamentals, sustainability, new energy technology systems, renewable and advanced electric power systems, smart grid technology, electronics, and hybrid/electric transportation and grid storage.



Dr. Randy Booker, Professor of Physics, University North Carolina Asheville, PhD and MA from Duke University, BA from Rice University. Dr. Booker has served as Physics Department Chair at UNCA. Dr. Booker reviewed the theoretical work of Dr. Mills in addition to validating spectroscopy and calorimetry experiments.

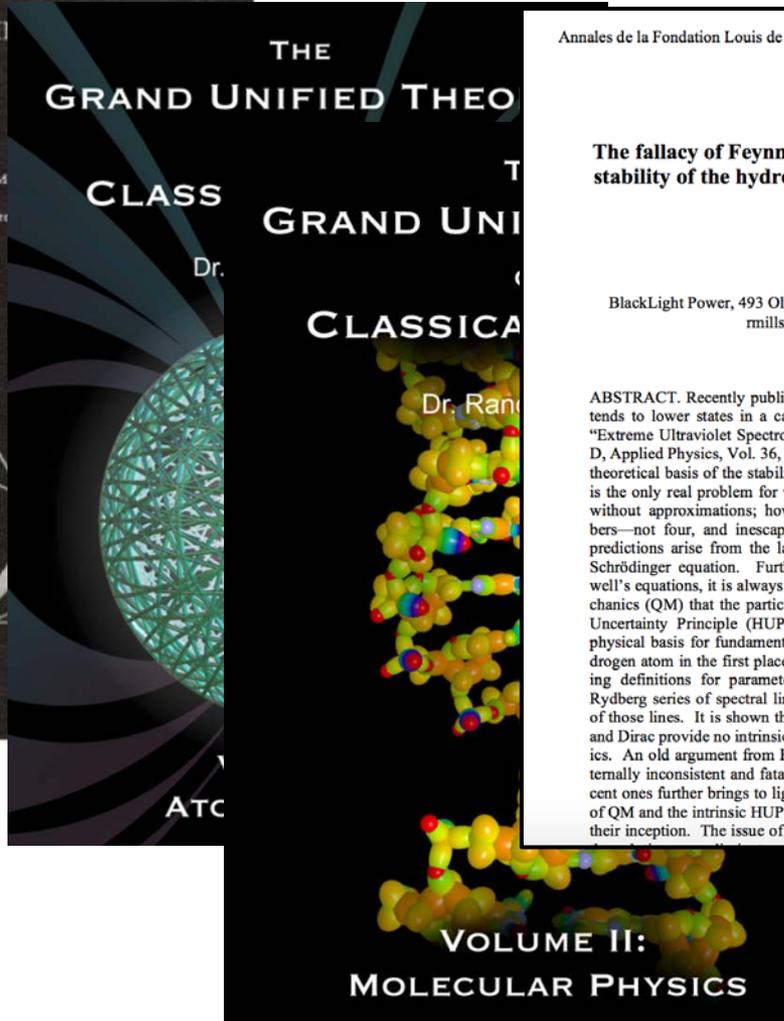
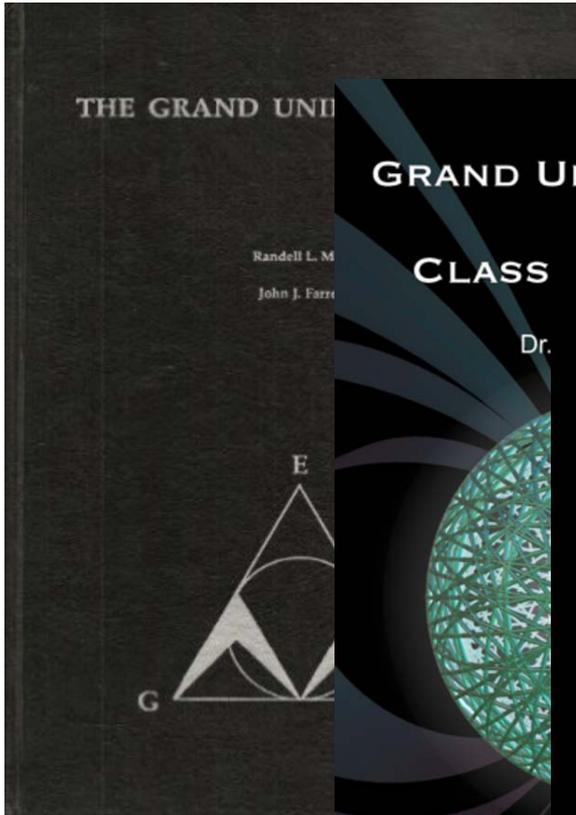


Dr. K. V. Ramanujachary (Chary), Professor Department of Chemistry and Biochemistry, Rowan University. Chary has extensive expertise in materials science and collaborates with world renowned battery and materials science groups. Chary participated in prior independent validation studies measuring energy from solid fuels and validating Hydrino[®] containing chemical samples.



Mr. Joe Renick, former Chief Scientist for a Defense Contractor. Over 20 years experience at all levels of Research and Development in including managing test and evaluation programs for tier one defense contractors, DTRA and other agencies. Mr. Renick conducted BrLP solid fuel validation programs at third party sites for a prior employer in addition to Solid Fuel and SunCell[®] tests at BrLP.

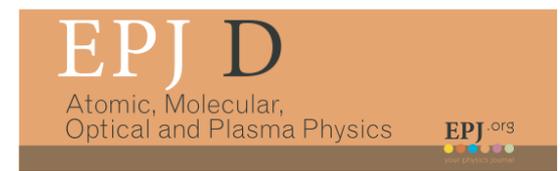
Beyond the over 100 peer reviewed publications, a new important paper recently published and another to publish soon regarding the confirmation of the fundamental Hydrino reaction, the SunCell's power source



The fallacy of Feynman's stability of the hydrogen atom

BlackLight Power, 493 Old Mills Road, San Francisco, CA 94118
 rmls@blacklightpower.com

ABSTRACT. Recently published papers tend to lower states in a category of "Extreme Ultraviolet Spectroscopy". The theoretical basis of the stability of the hydrogen atom is the only real problem for which there is no solution without approximations; however, there are not four, and inescapable predictions arise from the last Schrödinger equation. Furthermore, Dirac's equations, it is always classical mechanics (QM) that the particle's position is not defined by the Uncertainty Principle (HUP) but by a physical basis for fundamental constants. The hydrogen atom in the first place. The definition of parameters for the Rydberg series of spectral lines of those lines. It is shown that the Dirac equation provides no intrinsic solution. An old argument from Feynman is internally inconsistent and fatal. The recent ones further bring to light the fallacy of QM and the intrinsic HUP to their inception. The issue of s



Eur. Phys. J. D 64, 65–72 (2011) DOI: 10.1140/epjd/e2011-20246-5

Time-resolved hydrino continuum transitions with cutoffs at 22.8 nm and 10.1 nm

R.L. Mills and Y. Lu



BlackLight Innovations, Inc.

- Water as high power density, fast kinetics fuel to develop high pressure
- Program:
 - Support validation and public announcement of hydrino-based power source
 - Pursue commercial partners-Applied Research Associates license contract in place to perform government contracts
 - Very small scale prototype reactions successful





Thank you!

For more information please visit us at www.brilliantlightpower.com