Response to Comment by J. E. Lawler and C. J. Goebel on "Time-Resolved Hydrino Continuum Transitions with Cutoffs at 22.8 nm and 10.1 nm," Eur. Phys. J. D, 64, (2011), 65-72, DOI: 10.1140/epjd/e2011-20246-5.

The continuum radiation was predicted before it was observed from solutions of the hydrino states and transitions using Maxwell's equations. Conversely, this data actually disproves quantum mechanics that is only based on a postulated mathematical probability wave equation for a singularity over all space. In closed form equations having fundamental constants only, the competing classical theory solves the central enigmas of quantum mechanics and the fundamental problems of chemistry and physics physically, from first principles over 85 orders of magnitude of scale [1]. Furthermore, in addition to vast amounts of known phenomena, classical physics has successfully solved many intractable problems including ones before they were observed such as the masses of fundamental particles including the mass of the top quark, the acceleration of the expansion of the universe, the absence of the Higgs boson, absence of time dilation for highly red shifted quasars, zero dipole moment of the bound electron, the muonic hydrogen Lamb shift, the physical mechanism of the double slit interference pattern regarding transverse photon displacement and momentum change, and the prediction of hydrino states that match the identity of dark matter. Indeed, data supports that celestial hydrogen transitions to hydrino form with the ubiquitous emission of continuum radiation such as that from white dwarf stars, interstellar medium, and the solar corona matching that reported in our paper [2]. There are many astrophysical observations that are solved by the transition to and existence of lower-energy hydrino states such as a solar coronal temperature of $T \sim 10^6$ K given the 4000 K surface temperature. Even Bahcall in his Nobel lecture regarding solar neutrinos considered that there may be an undiscovered energy source in the Sun [3]. Moreover, data supports that most of the hydrogen in the universe is in dark lower-energy hydrino form consistent with expectations.

We have and are prepared to answer technical issues regarding conventional explanations. Lawler and Goebel offer no alternative explanation for the hydrogen soft X-ray continuum radiation that we interpret as their inability to find one. Other researchers have serendipitously discovered inexplicable spectroscopic results that matched those of hydrinos [4]. Unlike that of a spontaneously radiative transition, the mechanism involves a nonradiative energy transfer from a hydrogen atom to at least one other followed by soft X-ray continuum energy release. As discussed in our paper, a high density of atomic hydrogen formed in fully ionized pinch plasma undergoing recombination is required to form hydrinos. The conditions for

hydrogen continuum radiation last for about 300 ns following a 100 ns delay from the pulse. In contrast, the ionization fraction of steady state glow discharge plasma is typically 10^{-9} and there is no pinch. However, a high-density of hydrogen may be achieved on the electrode surface that gives rise to extraordinarily fast H as a competing pathway to releasing the energy in the formation of hydrinos [5]. Many spectroscopic, analytical, and energy balance experiments reported on plasmas and special chemical reactions in about 100 journal articles and independent replications support this publication showing that hydrogen exists in lower-energy states than possible according to quantum mechanics [6].

1. http://www.blacklightpower.com/theory/bookdownload.shtml
2. R. L. Mills, Y. Lu, "Hydrino Continuum Transitions with Cutoffs at 22.8 nm and 10.1 nm," Int. J. Hydrogen Energy, 35 (2010), pp. 8446-8456, doi: 10.1016/j.ijhydene.2010.05.098.
3. http:// nobelprize.org/nobel_prizes/physics/articles/bahcall/
4. R. L. Mills, J. Lotoski, G. Zhao, K. Akhtar, Z. Chang, J. He, X. Hu, G. Wu, G. Chu and Y. Lu, "Identification of New Hydrogen States," Physics Essays, 24, (2011), 95–117; doi:10.4006/1.3544207.
5. K. Akhtar, J. Scharer, R. L. Mills, "Substantial Doppler Broadening of Atomic Hydrogen Lines in DC and Capactively Coupled RF Plasmas," J. Physics D: Appl. Phys., Vol. 42, Issue 13 (2009), 135207 (12pp).
6. http://www.blacklightpower.com/