

Abstract Submitted
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On Complex Nuclei Energetics in LENR GEORGE H. MILEY, ANDREI LIPSON, NIE LUO, Department of Nuclear, Plasma and Radiological Engineering, University of Illinois, Urbana, IL 61801, HEINZ HORA, Dept. of Physics, U New S. Wales, Sydney, Australia — Swimming Electron Layer (SEL) theory plus fission of “complex nuclei” were proposed earlier to explain reaction products observed in electrolysis with multi-layer thin-film metallic electrodes¹. SEL was then extended to treat gas-diffusion driven transmutation experiments². It is also consistent with measured charged-particle emission during thin-film electrolysis and x-ray emission during plasma bombardment experiments³. The binding energy per complex nucleon can be estimated by an energy balance combined with identification of products for each complex e.g. complexes of A 39 have ~ 0.05 MeV/Nucleon, etc, in thin film electrolysis. Energies in gas diffusion experiments are lower due to the reduced trap site potential at the multi-atom surface. In the case of x-ray emission, complexes involve subsurface defect center traps, giving only a few keV/Nucleon, consistent with experiments³.

¹1. G.H. Miley, and J.A. Patterson, J. New Energy, Vol. 1, pp.11-15, (1996).

²2G. H. Miley and H. Hora, “Nuclear Reactions in Solids,” APS DNP Mtg., East Lansing, MI, Oct (2002).

³3A. Karabut, “X-ray emission in high-current glow discharge,” Proc., ICCF-9, Beijing China, May (2002).

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