

Abstract Submitted  
for the MAR07 Meeting of  
The American Physical Society

**Future Power Production by LENR with Thin-Film Electrodes**

GEORGE H. MILEY, HEINZ HORA<sup>1</sup>, ANDREI LIPSON, NIE LUO, P. JOSHI, SHRESTHA, Department of Nuclear, Plasma and Radiological Engineering University of Illinois, Urbana, IL 61801 — PdD cluster reaction theory was recently proposed to explain a wide range of Low energy Nuclear Reaction (LENR) experiments<sup>2</sup> If understood and optimized, cluster reactions could lead to a revolutionary new power source of nuclear energy. The route is two-fold. First, the excess heat must be obtained reproducibly and over extended run times. Second, the percentage of excess must be significantly (order of magnitude or more) higher than the 20-50% typically today. The thin film methods described here have proven to be quite reproducible, e.g. providing excess heat of 20-30% in nine consecutive runs of several weeks each. However, mechanical separation of the films occurs over long runs due to the severe mechanical stresses created.. Techniques to overcome these problems are possible using graded bonding techniques similar to that used in high temperature solid oxide fuel cells. Thus the remaining key issue is to increase the excess heat. The cluster model provides import insight into this.

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<sup>2</sup>G. H. Miley, H. Hora, et al., 233rd Amer Chem Soc Meeting, Chicago, IL, March 25-29, 2007.

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Date submitted: 29 Nov 2006

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