

Abstract Submitted  
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**Predictability of Theory, and Collaboration with Experimentalists in CMNS** XING ZHONG LI, Department of Physics, Tsinghua University, Beijing 100084, China — Condensed Matter Nuclear Science has confirmed 2 outstanding experimental results: 144.5W of continuous “Excess Heat” in 10 minutes (ICCF-3, 1992) and the nuclear transmutation induced by deuterium flux on the Pd surface (ICCF-8, 2000). Theory predicted neutron emission based on the previous beam-target experiments. It was a wrong guidance, because there was no “commensurate neutron” detected. The collaboration with experimentalists helped theorist to modify their prediction in the past 19 years. Theorists might imagine that “high loading ratio” was necessary; then, the experiments said “deuterium flux was more important.” Resonant tunneling theory imagined again “any resonance in inelastic scattering (nuclear reaction) had to be accompanied by a resonance in elastic scattering (diffusion); hence, a peak in excess heat should be correlated with a peak in deuterium flux.” The experiments seem to confirm this imagination<sup>1</sup>. The next 2 predictions are: (1) Adjusting the loading rate to form a steady state for resonant tunneling; (2) Neutrino detection from this steady state to confirm its nuclear nature.

<sup>1</sup>J. Phys. D: Appl. Phys. 36 3095 (2003)

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