

Abstract Submitted
for the MAR09 Meeting of
The American Physical Society

Potential Role of Energy Band Theory in Finite Solids and in Resonant Phenomena Involving Metal-Induced Fusion and the Fleischmann-Pons Effect SCOTT CHUBB, Infinite Energy Magazine, 903 S Frederick St., #6, Arlington, VA — Considerable confusion occurred from a speculative conjecture that Talbot Chubb and I suggested in 1989, concerning the potential role of conventional energy band theory in the “cold fusion” claims, suggested by Fleischmann and Pons.¹ Two important reasons for this are related to: 1. Misconceptions, about what was taking place in the experiments, and 2. Limitations of conventional energy band theory. In particular, Talbot Chubb and I proposed the idea that deuterium nuclei (deuterons) could occupy energy band states or have overlap with these kinds of states with “unforeseen” consequences, including, the possibility of nuclear fusion. Conventional energy band theory has limitations, associated with the underlying quantum mechanics. Talbot Chubb and I have investigated an important problem, relating to extending conventional energy band theory, as it applies to infinitely-repeating ordered crystals, to finite crystal lattices, where energy band theory can be re-expressed more precisely through resonant or nearly-resonant effects and the “conventional” Coulomb Barrier problem of fusion can be replaced by a considerably richer problem.

¹David Lindley, Nature 344, 375 (1990).

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Date submitted: 25 Nov 2008

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