Bloch-Sensitive Nuclides  TALBOT A. CHUBB, Physicist Consultant, 5023 N 38th St., Arlington, VA — Documented condensed matter nuclear science includes Fleischmann and Pons radiationless dd fusion reactions, Iwamura alpha-addition transmutations, and Oriani MeV particle showers. All require partitioned coherent matter in which fractions of each single “wave like” particle are entangled\textsuperscript{1}. If the work required to bring side-by-side deuterons into contact is somehow reduced enough, an energy-minimizing 2-body anti-correlation form of wave function replaces the “molecule” configuration, allowing cold fusion. In the Iwamura process, a second fusion step fuses 2 spin-zero \( ^4\text{He}^{2+}_{\text{Bloch}} \) ions to form \( ^8\text{Be}^{4+}_{\text{Bloch}} \). The nuclear ground state energy of the product nucleus is a function of the number of fragments into which it is partitioned. It is “Bloch sensitive”, i.e., its energy level is a function of \( N_{\text{well}} \), the number of potential wells into which the \( ^8\text{Be}^{4+}_{\text{Bloch}} \) is partitioned. The dependence of energy on lattice parameter \( N_{\text{well}} \) strongly couples nuclear and electromagnetic forces at the boundary of the coherently ordered volume, causing energy transfer to the lattice.

\textsuperscript{1}T. A. Chubb, “Bloch Nuclides, Iwamura Transmutations, and Oriani Showers”, ICCF11 Abstract