

Abstract Submitted
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Experiment and Theory for Nuclear Reactions in Nano-Materials
Show e14 - e16 Solid-State Fusion Reactions RUSS GEORGE, - D2Fusion Inc.
San Francisco, CA — Nano-lattices of deuterium loving metals exhibit coherent behavior by populations of deuterons (d's) occupying a Bloch state. Therein, coherent d-overlap occurs wherein the Bloch condition reduces the Coulomb barrier. Overlap of dd pairs provides a high probability fusion will/must occur. SEM photo evidence showing fusion events is now revealed by laboratories that load or flux d into metal nano-domains. Solid-state dd fusion creates an excited ^4He nucleus entangled in the large coherent population of d's. This contrasts with plasma dd fusion in collision space where an isolated excited ^4He nucleus seeks the ground state via fast particle emission. In momentum limited solid state fusion, fast particle emission is effectively forbidden. Photographed nano-explosive events are beyond the scope of chemistry. Corroboration of the nuclear nature derives from photographic observation of similar events on spontaneous fission, e.g. Cf. We present predictive theory, heat production, and helium isotope data showing reproducible e14 to e16 solid-state fusion reactions.

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