

Abstract Submitted
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D2 Fusion in Ionic Solid + Nanometal Composites TALBOT CHUBB, Physicist Consultant, 5023 N. 38th St., Arlington, VA 22207 — Interfaces between ionic solids and nanometals seem to provide an environment that promotes Bloch deuterium with 2-dimensional lattice symmetry. Electrolysis-loaded powdered $\text{ZrO}_2 + \text{nanoPd}$ composite produced 10-W excess heat for 400 hr (1.4×10^7 J).¹ This compares with best plasma fusion runs of 16 MW of fusion heat for ≤ 1 s ($\leq 1.6 \times 10^7$ J). The fusion heat was less than the input energy.² In 2004, Arata and Zhang pressure-loaded $\text{ZrO}_2 + \text{nanoPd}$ with D_2 at 140 °C and produced an estimated steady 0.6 W of fusion heat.^{3,4} The ionic oxide + nanometal composites absorb abnormal amounts of hydrogen gas.⁵

¹Y. Arata and Y-C Zhang, Proc. Jap. Acad. 78B, 57 (2002).

²C. Cookson, Financial Times, Energy Section, 14 (9 Nov. 2007).

³Y. Arata and Y-C Zhang, Proc. ICCF12, 44 (2006).

⁴T.A. Chubb, Proc. ICCF13, (submitted 2007).

⁵S-i. Yamaura et al., J. Mater. Res. 17, 1329 (2002).

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