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Cold Fusion Dark Matter and Dark Energy MARK LEVI — Explanation of Cold Fusion [1] "It is k-capture forming dineutrons followed by absorption by palladium." with excess heat energy no more than about .15 MeV per nucleon. Experimentally [1], ^{1}H and electrons are at high pressure at the center of a palladium wire sample, "After hours of loading with ^{1}H, bubbles were present on the wire surface and the wire's resistance had stopped increasing, there was a fizz of hydrogen from the wire within a few seconds after loading current and large bubbles were stopped." a repeatable cycle. K-capture rate is affected by environment at the 1/10000 level has has been known since 1946 (ref. [6]in [1]); and recently has been seen at the 0.35% level for 7Be in C60 [2]. Neutron halos have been seen recently in 8He [3], 6He [4] and others long ago. Conclusions: 1) the evidence for dineutrons is fairly good and as in all K-captures is accompanied by a neutrino emission. collapse of a star to a neutron star has a succession of K-captures in conditions like cold fusion i.e. high pressure. 2)Dark matter is dineutrons from formation of neutron stars and black holes, and dark energy of neutrinos generated in neutron stars, ordinary stars and black holes. If in the latter, then their mass must be zero for an infinite horizon. References: [1] M. Levi, DAMOP Meeting poster paper, session WP, 16-19 May,1995 [2]T. Ohtsuku et al., Phys. Rev. Lett. 98, 252501 (2007) [3] V. I. Ryjkov et al., Phys. Rev. Lett. 101, 01901 (2008) [4] L. B. Wang et al., Phys. Rev. Lett. 93 ,142501 (2004).

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