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Low Temperature Orbital Paramagnetism in B-DNA MICHAEL J. HARRISON, Michigan State University — A planar model of B-DNA has been developed that exhibits orbital paramagnetic properties at zero temperature. The paramagnetism is nonlinear in applied field and has a maximum several times the magnitude of diamagnetism per particle in a 2DEG. The model depends on the assumption that approximately 1% of the pi-stack electrons in B-DNA are suffifiently delocalized and have wave functions that permit them to move coherently parallel to the helix axis, and extend several diameters perpendicular to its axis. The theoretical results closely represent recent experimental data [1]. 1. S. Nakamae, et. al., Phys. Rev. 94, 248102-1 (2005)

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