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**Anthony Suen\*** (cksuen@indiana.edu), Indiana University, Bloomington, IN 47405, and **David Hoff**. *Global Low-Energy Weak Solutions of the Equations of 3D Compressible Magnetohydrodynamics*.

We prove the global-in-time existence of weak solutions of the equations of compressible magnetohydrodynamics in three space dimensions with initial data small in  $L^2$  and initial density positive and essentially bounded. A great deal of information concerning partial regularity is obtained: velocity, vorticity, and magnetic field become relative smooth in positive time ( $H^1$  but not  $H^2$ ) and singularities in the pressure cancel those in a certain multiple of the divergence of the velocity, thus giving concrete expression to conclusions obtained formally from the Rankine-Hugoniot conditions. (Received May 22, 2011)