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**Anthony Chun Kit Suen\*** ([asuen@usc.edu](mailto:asuen@usc.edu)), 3620 S Vermont Ave, Los Angeles, CA 90089. *A blow-up criterion for the 3D compressible magnetohydrodynamics in terms of density.*

We study an initial boundary value problem for the 3D magnetohydrodynamics (MHD) equations of compressible fluids in  $\mathbb{R}^3$ . We establish a blow-up criterion for the local strong solutions in terms of the density and magnetic field. Namely, if the density is away from vacuum ( $\rho = 0$ ) and the concentration of mass ( $\rho = \infty$ ) and if the magnetic field is bounded above in terms of  $L^\infty$ -norm, then a local strong solution can be continued globally in time. (Received November 14, 2013)