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Walter Rusin* (walter.rusin@okstate.edu), Stillwater, OK 74078. *On persistence of regularity for the non-dissipative viscous MG equation.*

We consider the problem of persistence of regularity of the weak solutions to the three-dimensional magneto-geostrophic equation with kinetic viscosity and no dissipation. We show that the initial regularity is propagated by the evolution and the single exponential growth depends only on the L^3 -norm of the initial data. The proof uses frequency localization techniques and generalizes the result of Friedlander and Suen to a large class of Besov spaces. Moreover, the obtained growth estimates are sharper. (Received September 22, 2015)