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Hijun Choe and **Minsuk Yang*** (yangm@kias.re.kr), 85 Hoegi-ro Dongdaemun-gu, Seoul 130-722, South Korea, South Korea. *Partial regularity of weak solutions to the incompressible magnetohydrodynamic equations.*

We study the local behavior of the solutions to the three-dimensional magnetohydrodynamic (MHD) equations. The equations describe MHD are a combination of the Navier-Stokes equations of fluid dynamics and Maxwell's equations of electromagnetism. We prove the localized energy estimates, Biot-Savart law, and interpolation inequality. By combining and iterating those estimates, we prove partial regularity of weak solutions. By the similar scheme, we also investigate the Hausdorff dimension of the singular set. (Received September 12, 2013)