

## Regularity criteria for 3D MHD flows in terms of spectral components

*Thursday 12 January 2023 17:00 (1 hour)*

We extend the spectral regularity criteria of the Prodi-Serrin kind for the Navier-Stokes equations in a torus to the MHD equations. More precisely, the following is established: for any  $N > 0$ , let  $x_N$  and  $y_N$  be the sum of all spectral components of the velocity and magnetic field whose wave numbers possess absolute value greater than  $N$ ; then, it is possible to show that for any  $N$  the finiteness of the Prodi-Serrin norm of  $x_N$  implies the regularity of the weak solution  $(u, h)$ ; thus, no restriction on the magnetic field is needed.

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