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Numerical analysis of the Biermann battery mechanism of magnetogenesis for relativistic MHD turbulence

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We present the results of Relativistic Magnetohydrodynamic simulations utilizing a range of initial conditions in order to see if seed magnetic fields may be generated via the Biermann battery mechanism of magnetogenesis. These simulations occur in a simulated early universe around the time of the electroweak era 10^{-11} seconds after the Big Bang. Our results are characterized by the characteristic turbulent velocity of the magneto fluid and whether or not the relativistic version of the Biermann battery was utilized.

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