

Solved and Unsolved Problems in Plasma Dynamo

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MHD dynamo continues to be an interesting topic of current research but it can be viewed as solved in the sense that the basic mechanism is understood. Plasma (kinetic, collisionless) dynamo was until 2015 entirely unsolved in the sense it was not at all clear whether it worked at all. There are now first numerical results suggesting it does work. It may also be very close to an experimental test. However, the interplay between fluid (large) and kinetic (small) scales that gives rise to a working dynamo remains a difficult, fascinating and unsolved problem.