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Approximation of the magneto-hydrodynamic equations with a new spectral-FEM method RAPHAEL LAGUERRE, CAROLINE NORE, LIMSI-CNRS, JACQUES LEORAT, LUTH, Observatoire Paris-Meudon, JEAN-LUC GUERMOND, Texas A&M University, TX, USA, LIMSI TEAM — We have developed a numerical code in order to solve the equations of the magneto-hydrodynamic in 3-D in the approximation of kinematic dynamo using a new hybrid spectral-FEM method. We have studied the induction effects in different configurations. The understanding of the so-called dynamo effect is our objective and the configurations presented are linked to this effect.

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