

Numerical Von Karman dynamo

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We present a direct numerical simulation (DNS) of the Von Karman flow, forced by two rotating impellers. The cylinder geometry and the rotating objects are modeled via a penalization method and implemented in a massive parallel pseudo-spectral solver. The MHD equations are solved in the vessel and inside the impellers. We will present several common features with the VKS dynamo experimental campaigns, as the observed magnetic mode ($m=0$) and the variation with the magnetic permeability. But we will discuss also about news features involving transition from the mode ($m=1$) to a new mode ($m=0$) even at low magnetic permeability.
