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# Numerical simulations of the Tayler-Spruit dynamo

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## Abstract

The so-called Tayler-Spruit dynamo has been proposed to provide an effective angular momentum transport in stellar radiative zones. This dynamo process could also play an important role to explain the formation of highly magnetized neutron stars called magnetars (Barrère et al. 2022). For many years however, our understanding of it relied on simplified analytical prescriptions. Recent numerical advances start to provide us with a 3D picture of this dynamo. In this context, I will present new results from 3D MHD numerical simulations in which a Tayler instability-driven dynamo is acting in a stably stratified region.

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