

SOLAR INTERIOR DYNAMICS

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In this talk I give a general overview of dynamics of the solar interior including the properties and origin of large scale flows (differential rotation and meridional flow) and their relevance for solar dynamo models. Special emphasis will be put on the flux-transport dynamo, which has gained significant interest over the past decade, mainly due to the fact that this class of models can explain the majority of the observed cycle features with a minimum amount of tuning. After a brief summary of the main properties of flux transport dynamos I will review the basic assumptions underlying these models and discuss their validity in view of results from 3D local and global MHD simulations as well as non-kinematic mean field models that consider the feedback of the Lorentz force on meridional flow and differential rotation.

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