



SEMINAIRE régulier du Service d'Astrophysique

CAN ROTATION BE USED AS A CLOCK?

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11h00

It is now practical to measure rotation rates for bulk stellar populations; this raises the prospect of obtaining ages if the relationship between rotation and age can be calibrated. I review the three main features of angular momentum evolution for low mass stars: the origin of stellar rotation, angular momentum loss from magnetized winds, and internal angular momentum transport. I argue that there are possible environmental and planet formation effects which could influence stellar rotation, and that light element abundances may be the best diagnostic. For angular momentum loss, the observed trends of proxies with respect to mass and rotation can be explained by the interplay of convection and magnetism. Inferences on the time scale for internal angular momentum transport are presented, and possible mechanisms to distinguish between different classes are discussed. I conclude that rotation is a promising potential clock, but that essential calibration work still needs to be done and that there will be limited domains of applicability.



Un café sera servi 15 minutes avant le séminaire

Ce séminaire aura lieu au CEA Saclay – Orme des Merisiers –bâtiment 709, Salle 003.