

## Seminar

by

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**Monday, 06. Mai 2019, at 15:00 Uhr in HS**

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### ***Stellar magnetic fields in the context of spin-down***

One of the most important and fundamental properties of low-mass main sequence stars is their rotation period. It is known to correlate with numerous proxies of magnetic activity such as X-ray emission, surface magnetic field strengths and stellar winds. In turn, stellar winds are the main agent of mass- and angular momentum-loss over the main sequence lifetime, causing the rotation period to increase as the star ages. There is therefore a complex interplay between the magnetic activity, winds and rotation periods of these stars. While the mechanisms driving stellar winds are not precisely known, the stellar magnetic field must play an important role.

In this talk, I will review our current understanding of the magnetic properties of low-mass stars as measured using Zeeman-Doppler imaging and Zeeman broadening. I will also cover the role of magnetic fields, especially their geometry, in the spin-down of low-mass stars. In particular, I will discuss how these observations can be used in conjunction with stellar wind models to improve our ability to estimate mass- and angular momentum-loss rates. Lastly, I will cover where progress in our understanding of stellar magnetism and winds can be made.