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# Stellar magnetic activity: Star-Planet interactions

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## Abstract

Stellar magnetic activity is an important factor in the formation and evolution of exoplanets. Magnetic phenomena like stellar flares, coronal mass ejections, and high-energy emission affect the exoplanetary atmosphere and its mass loss over time. One major question is whether the magnetic evolution of exoplanet host stars is the same as for stars without planets; tidal and magnetic interactions of a star and its close-in planets may play a role in this. Stellar magnetic activity also shapes our ability to detect exoplanets with different methods in the first place, and therefore we need to understand it properly to derive an accurate estimate of the existing exoplanet population. I will review recent theoretical and observational results, as well as outline the observational opportunities arising with current and upcoming telescope missions.

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