

## **Magnetic Activity and Flares in the Near-UV of Exoplanet Host Stars**

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Flares in the Sun and M dwarfs are thought to result from a common process of sudden reconnection and relaxation of magnetic fields in their coronae. A fraction of M dwarfs are in the saturated magnetic activity regime and on occasion produce flares with energies that are 10,000x larger than typical solar flares. The highly dynamic stellar atmospheric response during flares produces radiation across the electromagnetic spectrum, from the radio to X-rays, on a range of timescales, from seconds to days, which can have important effects on planetary atmospheres in the habitable zones of stars. In this talk, I will review the flare activity of M dwarfs, which are often targets for habitable-zone planet searches. I will then focus on the observed properties of the near-UV flare radiation in M dwarf flares and how we have reproduced some of these properties in recent radiative-hydrodynamic models with very energetic electron beams. I will discuss what is not known about flare spectra in the near-UV between 200 and 350 nm, which is an important wavelength range for planetary surface biology and ozone chemistry in habitable zone planets.