Contributed Talk

Splinter Activity

X-ray emission and activity in late-type stars

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Although the photospheres of late-type stars – and in fact all main-sequence stars – are too cool to produce any significant X-ray emission, virtually all late-type stars within reach of current instrumentation are found to be X-ray sources. This is thought to be a consequence of ubiquitous magnetic activity. Produced in the stellar interior, magnetic fields reach beyond the photosphere, where they heat the chromospheres and coronae. Our understanding of activity remains incomplete, and many questions are being intensively researched, e.g.: How does activity and X-ray emission evolve during the course of the stellar lifetime; How common is cyclic behavior?; and what are the details of the heating mechanism? Studying activity is vital to better understand late-type stars and its impact on planets in the solar system and beyond.