Magnetic Fields in Stars: Origin and Impact

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Abstract

I will emphasize that magnetic fields are found in all types of stars, from the pre-main sequence to the compact end stages, but not in all of them with the same incidence. I will argue that we need to distinguish three types of fields: "spots", "dipoles", and "torroidal fields". Concerning the incidence fraction of these types in the various kinds of stars, I will discuss the possible distinct origins of the magnetic fields, and correspondingly required observational tests. Finally, I will consider the effect of the various types of magnetic fields on the structure and evolution of their host stars.

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