

# Dark Matter and Stars: Multi-Messenger Probes of Dark Matter and Modified Gravity

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## Modified Gravity in Stellar Physics

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We investigate the non-trivial implications of modified gravity theories on stellar observables in the presence of stellar pressure anisotropies originating due to either stellar magnetic fields or stellar rotation. We demonstrate how one can constrain the modified gravity theories from such studies therein. We also develop an analytical formalism for studying slowly rotating stellar objects in any modified gravity theory in general.

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