



MITCHELL INSTITUTE ASTRONOMY SEMINAR SERIES

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Signatures of Planet Formation in the Chemical Composition of Stellar Twins

The process of planet formation is likely to have left a detectable signature in the chemical composition of host stars, as exemplified by the now well-established connection between high iron abundance and the presence of giant planets. Highly precise abundance analyses of several other elements in stars, which are very similar to each other (stellar twins) have revealed interesting correlations between relative elemental abundance and dust condensation temperature, which can be interpreted as signatures of the formation of gas giant and/or terrestrial planets. In this talk, Dr. Ramirez will discuss the proposed connection between host star chemical abundances and planet formation, how it could be used to find or confirm the presence of exoplanets using a relatively simple spectroscopic analysis of the host star, and what it may tell us about how exoplanet host stars form.



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