

# Astrophysics Seminar

## Monday, November 6, 2017

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Columbia



### *Hunting for Exomoons and other Cool Worlds*

Despite thousands of exoplanets now known, the detection of moons around these objects has proven elusive. Exomoons may be habitable worlds in their own right and affect the habitability and history of the planets they orbit. Whilst their detection requires pushing modern instruments to their limits, these objects hold a great potential to revolutionize our understanding of other planetary systems. I will present the methods and results from the Hunt for Exomoons with Kepler (HEK) project, which remains the only systematic survey for these objects. I'll discuss new results where we have stacked thousands of light curves to measure the occurrence rate of exomoons, down to Galilean-sizes, as well as an interesting candidate object uncovered from our work. From exomoons to other cool worlds, I will also introduce my new group at Columbia, highlighting some of the exciting research from by graduate students, including hierarchical modeling, precise albedo measurements and novel methods to infer exotopography.

3:30pm in CAS 502. Refreshments served at 3:15pm in CAS 500.

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Next Week  
Sean Andrews  
CfA