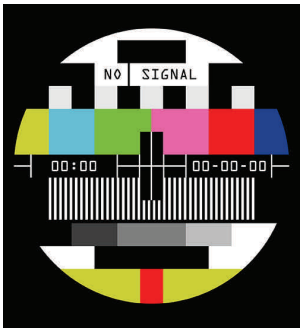
Physics & Space Sciences department presents:

Transit Search Methodologies



Transiting extrasolar planets play a basic role in our understanding of planetary systems. Pioneered by ground-based wide-field surveys and the Kepler mission, these planets allow us to study a wide variety of questions from atmospheric structure to dynamical stability. In the talk we examine the first step in the discovery process of these objects, when we tumble through thousands of light curves while searching for shallow, short-duration, periodic brightness decreases. Systematics (instrumental and physical) and signal sampling are the two main culprits here, yielding low discovery rates for surveys with conventional data pipelines. We show methods used very successfully over the past several years that are able to suppress systematics, while leaving the signal far less affected, and thereby allowing its detection with confidence.

Friday, April 12, 2013

4:00—5:00 PM

OPS Room 140

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