

# Probing the Physics of Planets and Stars with Transit Data

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*Invited Talk*

**Summary.** Virtually all exoplanet detection and characterisation methods are based on time-domain data. This invited talk gave an overview of some recent results in the field, highlighting some of the time-series-specific challenges encountered along the way. In particular it focussed on planetary transits: how to detect shallow, rare transits in noisy data, and how to model them with extreme accuracy to extract information about the transiting planet's atmosphere. Space-based transit surveys also constitute an extraordinary goldmine of information on stellar variability, and the talk touched briefly upon some recent statistical work in that field.

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## Asteroseismology

**Don Kurtz**

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*Invited Talk*

**Summary.** In 1926 in the opening paragraph of his now-classic book, *The Internal Constitution of the Stars*, Sir Arthur Eddington lamented, “What appliance can pierce through the outer layers of a star and test the conditions within?” While he considered theory to be the proper answer to that question, there is now an observational answer: asteroseismology. This talk introduced the concepts of asteroseismology, then looked at a selection of discoveries made for “ticking things” with the micromagnitude precision light curves of the KEPLER Mission.

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