



# PHYSICS AND ASTRONOMY COLLOQUIUM

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## **“Observing the Evolution of Solids in Protoplanetary Disks”**

### Abstract

The canonical model for the formation of terrestrial planets and giant planet cores relies on an early and very efficient phase of planetesimal growth in a gas-rich circumstellar disk. But, as theorists have known for decades now, there are some formidable obstacles to meeting that requirement. Many of these problems, and potentially their solutions, are associated with the growth and migration of "pebbles" (mm/cm-sized particles) in the first few million years of a disk's lifetime. That is fortuitous, s