subject of talk:

Observing Planet-Bearing Disks and Disk-Embedded Planets

The presence of a young protoplanet within a protoplanetary disk can modify its appearance. In order to determine whether such effects are observable, we have produced 3-D radiative hydrodynamic models of young, optically-thick disks which contain planets. While broad characterizations such as the spectral energy distribution are changed relatively little, full images of the disk are greatly modified at wavelengths ranging from optical to millimeter. Though the resultant protoplanetary gaps have not been detected at present, the Keck Interferometer and ALMA may be able to resolve them around stars within the nearest star forming regions.

While planets alter the appearance of their disks, disks can also affect observations of planets. As attempts will be made to detect planets around young stars with the Space Interferometry Mission (SIM), the presence of a thick, gaseous disk may introduce an unacceptable amount of contamination into the observations. We find that the disk-induced noise is small relative to the signal produced by a Jupiter-mass protoplanet within a face-on disk. Although the level of confusion increases as the disk is inclined or as starspots are included, it generally remains smaller than SIM's intrinsic accuracy, particularly if the same baseline orientations are used for each epoch of observation.

none of this will be published.