

## **ABSTRACT**

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### **A prelude to ALMA: studying grain growth using resolved images of protoplanetary disks with CARMA**

Circumstellar disks around pre-main sequence stars are believed to be the birthplace of planets. High resolution imaging at millimeter wavelengths provides an important tool to identify the density and temperature distribution of material in the mid-plane of the disks where planets may form. The Combined Array for Research in Millimeter-wave Astronomy (CARMA) provides a unique opportunity to spatially resolve circumstellar disks in the nearby Taurus and Ophiuchus star-forming regions at spatial scales of 20 ,à 40 AU. Multi-wavelength millimeter observations can be used to measure radial variations in the spectral slope of the dust opacity. Any changes in the slope with radius will indicate variations in the dust properties (e.g. composition, grain size distribution) within the disk. To investigate grain growth in protoplanetary disks we have obtained multi-wavelength CARMA observations of circumstellar disks in Taurus and Ophiuchus, that constrain the slope of the millimeter dust opacity as a function of radius. We also present an overview of the Paired Antenna Calibration System, which has been employed to obtain observations at high angular resolution with CARMA.