PROBING KEPLERIAN PROTOPLANETARY DISKS USING CO OBSERVATIONS WITH CARMA

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We present CARMA high spectral resolution observations of the ^{12}CO (1-0) molecular emission yielding the velocity structures in disks with a resolution of $\delta v \simeq 0.32$ km/s. We probe the disk kinematics and gas morphology (outer radius and mass) of Herbig AeBe stars (e.g. HD 141569) and T Tauri stars (e.g. DO Tau). The circumstellar gas emission traces the line-of-sight velocity component of the disk via Doppler shifts. The orbiting gas produces a characteristic double-peaked profile; we show how by fitting a Keplerian disk model, we infer the disk morphology and better constrain the stellar parameters.