

Chemistry and line emission of outer protoplanetary disks

Inga Kamp¹†, Cornelius P. Dullemond²

¹STScI, 3700 San Martin Drive, Baltimore, MD 21218, USA
email: kamp@stsci.edu

²Max-Planck Institute for Astronomy, Königstuhl 17, D-69117 Heidelberg, Germany
email: dullemon@mpia.de

Abstract. The structure and chemistry of protoplanetary disks depends strongly on the nature of the central star around which it has formed. The dust temperature is mainly set by the stellar luminosity, while the chemistry of the upper disk layers depends on the amount of intercepting UV and X-ray flux. We will study the differences in chemistry, thermal structure and line emission around Herbig Ae/Be, T Tauri stars and low mass M dwarfs. Predictions will be made for future observations with SOFIA and Herschel.

Keywords. astrochemistry,planetary systems: protoplanetary disks,radiative transfer,solar system:formation,X-rays:stars,ultraviolet:stars

† Present address: STScI, 3700 San Martin Drive, Baltimore, MD 21218.