

A study of gaseous debris disks: origin of gas and its composition

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Debris disks have optically thin dust components around main-sequence stars. Recently, several debris disks harboring a gas component have been discovered in survey observations at optical, infrared, and radio wavelengths, and its origin has been discussed in terms of the evolution of protoplanetary disks and the formation of planetary bodies. In fact, many debris disks are known to reveal submillimeter-wave CO emission, e.g., 49 Ceti, β Pictoris, and 15 others or more. In addition to the CO emission, the submillimeter-wave [C I] emission has been observed toward a few debris disks. I will present recent observations of gaseous debris disks and also present our result of the first subarcsecond images of 49 Ceti observed with ALMA.