

## Distribution of water ice grains in the protoplanetary disk around Herbig Be star HD100546

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We made near infrared multicolor imaging observations of disks around Herbig Be star HD100546 using Gemini/NICI. K (2.2 $\mu$ m), H<sub>2</sub>O ice (3.1 $\mu$ m), and L' (3.8 $\mu$ m) disk images are obtained and we found the 3.1 $\mu$ m absorption feature in the scattered light spectrum. Following Oka et al. 2012 model calculation, ice grains can be destroyed at the disk surface around A/B stars due to photodesorption by UV photons. Our detection of water ice grains at the disk surface is not consistent with their predictions, indicating that the photodesorption is not so efficient for water ice, or mixing between disk surface and interior may be very efficient.

Keywords: protoplanetary disk, ice