

Is there really a debris disc around $\zeta 2$ reticuli?

Faramaz, V., Bryden, G., Stapelfeldt, K. R., Booth, M., Bayo, A., Beust, H., ... & Olofsson, J. (2018). Is there really a debris disc around $\zeta 2$ Reticuli?. *Monthly Notices of the Royal Astronomical Society*, 481(1), 44-48. <10.1093/mnras/sty2304> Accessed 24 Jul 2020.

Abstract

The presence of a debris disc around the Gyr-old solar-type star $\zeta 2$ Reticuli was suggested by the Spitzer infrared excess detection. Follow-up observations with Herschel/PACS revealed a double-lobed feature that displayed asymmetries both in brightness and position. Therefore, the disc was thought to be edge-on and significantly eccentric. Here we present ALMA/ACA observations in Band 6 and 7 which unambiguously reveal that these lobes show no common proper motion with $\zeta 2$ Reticuli. In these observations, no flux has been detected around $\zeta 2$ Reticuli that exceeds the 3σ levels. We conclude that surface brightness upper limits of a debris disc around $\zeta 2$ Reticuli are $5.7\mu\text{Jyarcsec}^{-2}$ at 1.3 mm, and $26\mu\text{Jyarcsec}^{-2}$ at 870 microns. Our results overall demonstrate the capability of the ALMA/ACA to follow-up Herschel observations of debris discs and clarify the effects of background confusion.

Keywords

Circumstellar matter, Stars: individual: $\zeta 2$ reticuli