

Z202a **A high-resolution radio study of the L1551 IRS 5 binary jets**

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Using observations with e-MERLIN and the VLA, together with archival data from ALMA, we obtain high-resolution radio images of the binary young stellar object L1551 IRS 5, covering a wide range of frequencies from 5 - 336 GHz, and resolving emission from the radio jet on scales of only  $\sim 15$  au. By comparing these observations to those from a previous epoch, it is shown that there is a high degree of variability in the free-free emission from the jets of the two components. In particular, the northern component of L1551 IRS 5 shows a remarkable decline in flux density of a factor of  $\sim 5$ , suggesting that the free-free emission of this source has almost disappeared. In contrast, the southern component shows an increase in flux density of a factor of  $\sim 2$ . By fitting the spectra of the components, the ionized mass-loss rates of the jets are derived and it is shown that there is significant variability of up to a factor of  $\sim 6$  on timescales of  $\sim 20$  years. Using radiative transfer modelling, we also obtained a model image for the jet of the southern component of L1551 IRS 5 to help study the inner region of the jet in more detail.