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Large [CII] maps unveil rapid molecular cloud erosion around expanding HII regions

**Lars Bonne¹ Nicola Schneider² Annie Zavagno³ Pablo García⁴
James Jackson⁵ Akanksha Bij⁶ Edward Chambers⁷ Laura Fissel⁶
Rolf Guesten⁸ Robert Simon² Alexander Tielens⁹**

¹SOFIA Science Center, USRA, ²i. Physik. Institut, University of Cologne, ³Aix Marseille Université, ⁴Chinese Academy of Sciences South America Center for Astronomy, ⁵Green Bank Observatory, ⁶Queen's University, ⁷USRA/SOFIA, ⁸Max-Planck Institut für Radioastronomie, ⁹Leiden Observatory

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I will present results from the SOFIA FEEDBACK legacy survey that maps the [CII] fine-structure line at 158 micron with a high spectral resolution of ~ 0.2 km/s. [CII] is the main coolant of the neutral ISM and traces the photodissociation region (PDR) at the interface of HII regions and their surrounding molecular cloud. The [CII] spectra in all FEEDBACK regions display prominent high-velocity wings at this interface region. This traces mass ejection from the molecular cloud that is driven by stellar feedback. The morphology of this mass ejection is often observed in the form of expanding shells, but not exclusively. Quantifying the mass ejection rate associated with these high-velocity wings indicates rapid molecular cloud erosion, i.e. within a few Myr, after the formation of high-mass stars.