

Using a recently developed 3D Monte Carlo dust line-scattering and absorption code, Bevan & Barlow (2016, MNRAS) have modelled the red-blue line asymmetries in the late-time $H\alpha$ and [O I] spectra of SN 1987A caused by the preferential absorption by internal dust particles of redshifted photons from the far side of the ejecta. They found dust masses that grew from $\leq 10^{-3} M_{\odot}$ on day 714 to $\geq 0.10 M_{\odot}$ by day 3604, a trend that agrees with the day 615-9200 SED modelling results of Wesson et al. (2015) for SN 1987A, for which Herschel and ALMA observations indicate a dust mass of $\sim 0.7 M_{\odot}$ by day 9200.

Similar red-blue emission line asymmetries are often observed in the late-time optical spectra of other supernova ejecta and remnants. With the aim of increasing the number of SNR dust mass determinations, we have modelled the red-blue emission line asymmetries in the late-time optical spectra of SN 1993J and SN 1980K published by Milisavljevic & Fesen (2013), as well as modelling similar red-blue line asymmetries seen in the integrated optical spectrum of Cas A published by Milisavljevic et al. (2013). Depending on grain composition, clumped dust masses of 0.1-0.4 M_{\odot} are required to provide fits to the Year-31 $H\alpha$ and [O I] line profiles of SN 1980K, while fits to the Year-16 [O II] and [O III] line profiles of SN 1993J require up to 0.18 M_{\odot} of clumped ejecta dust. For Cas A, fits to the [O I], [O II] and [O III] integrated line profiles require about 1 M_{\odot} of internal dust to be present.