

Dust SED evolution model of a galaxy

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Now it has been established that the contribution of dust from AGB stars is significant even if the galaxy age is very young ($< \text{Gyr}$). Also, dust grains can grow in dense cool gas in the ISM, as well as destroyed by shocks in supernovae, shattering in hot plasmas. Further, we should take into account the coagulation process of grains. We developed dust SED models of young galaxies (Takeuchi et al. 2003, 2005, 2010), but we have not taken into account these physical processes. In this study, we show a new version of the dust SED model including all the effects of dust growth and destruction based on our new dust evolution scenario (Asano et al. 2012). By this implementation, now we can trace the evolution of dust SEDs from the early epoch to the present-day Universe.