

## [초IT-03] Cosmic Evolution of Submillimeter Galaxies and Their Effects on the Star Formation Rate Density

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Development of bolometer array and camera at millimeter and submillimeter wavelengths plays an important role for detecting submillimeter galaxies (SMGs) which appear to be very bright at the submillimeter and millimeter wavelengths. These SMGs, luminous infrared galaxies detected at mm/submm wavelengths seem to be progenitors of present-day massive galaxies and account for their considerable contributions to the light from the early universe and their expected high star formation rates (SFRs) if there is a close link between the SMG phenomena and the star formation activities and the interstellar dust in galaxies is mainly heated by the star light. In this talk, we review assembly of SMGs compiled with observations using the bolometer arrays and cameras and investigate their spectral energy distribution fits including the data at other wavelengths which trace the photometric properties and the red-shift distribution of galaxies. We find that these bright SMGs significantly contribute to the cosmic star formation rate density at red-shifts of 2-3 (about 8 %) for the spatial distribution of these galaxies.

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