Deviation of CMBR from A Perfect Blackbody Caused by Non-Thermal Equillibrium Radiation of Fractal Dust Grains

Jeong, Yeuncheol
Dept. of Astronomy & Atmospheric Sciences, Yonsei University

Several dust models are constructed to account for the long-wavelength emission of our Galaxy. The dust particles are 1) random aggregation of small grains(i.e. fractal grains), 2) ordinary dust particles(i.e. spherical and disk shape), and 3)one-dimentional needle-shaped dust particles. Assuming certain material types(i.e. graphite and carbon), some size(mass) distributions, and several red-shift distributions among galaxies, we could make a model fit to the Far-IR spectrum of our Galaxy from COBE(Cosmic Background Explorer). The fit prefers small-size and high conductive dust particles. It is also possible to fit the CMBR(Cosmic Microwave Background Radiation) itself by these dust particles.