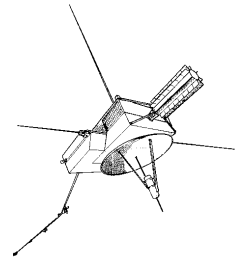


# Dust Mass Deviations from Cosmic Values in the Local Interstellar Medium (LISM)



Crosses show the local interstellar dust mass distribution from in-situ Ulysses and Galileo spacecraft data. The straight lines show mass distributions estimated by fitting the extinction of starlight by the LISM. The discrepancy evident in small grains detected in-situ is due to exclusion from the heliosphere by magnetic forces. The straight lines cut-off at about  $10^{-16}$  kg, whereas the in-situ data show that larger dust particles are abundant. The total mass of the dust is inconsistent with a sublimation-condensation equilibrium with the gas phase. So, the larger dust particles do not interchange mass with the local interstellar cloud, implying either a direct stellar source for the dust or large grains surviving erosion by high speed gas shocked by supernovae (Frisch et al., submitted *Astrophys. J.*).

