The dust injection rate from AGB stars into the Milky Way

Alfonso Trejo, Ciska Kemper, Sundar Srinivasan, and Ronny Geisler(ASIAA)

We want to derive the dust injection rate from AGB stars into the Galaxy. It is well known of the discrepancy between the estimated dust mass for the ISM and the one contributed by the dust producers, from which AGB stars play a major role. The last attempt to measure the dust injection rate was done in the 1980's. With new infrared Facilities (WISE, 2MASS, and AKARI) it is possible to provide a better estimate. This work is a contribution to that effort, by calculating first the injection rate in the Solar Neighborhood, using a volume-limited sample. However, such a sample is very challenging, as the most enshrouded, and therefore dustiest objects do not appear in the Hipparcos catalogue. In addition, we will compare the derived dust production rates with those of the Magellanic Clouds, for which the distance determination problems do not exist.