Comparison between IRAS and ISO-LWS

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The comparison of the LWS synthetic photometry with IRAS photometry in the IRAS 100 μm band is presented. The purpose of this study is twofold. One is to find the definition of the faint source from the point of view of LWS. In other words, we need to find the break down point of the data which is affected by the inaccurate dark current subtraction. The other is the cross-calibration study between LWS data and IRAS data. Both of these issues can be addressed through a systematic study of the LWS data. For this, we must have a statistically meaningful sample. The selection procedures of the sample will be discussed.

Based on the current preliminary results, we conclude that the definition of LWS-faint source is a source which IRAS flux density is less than 25 Jy at 100 μm. It is consistent with the selection criteria of IRAS Low Resolution Spectra (LRS) listed in the LRS Catalogoue.

The distribution between IRAS and LWS synthetic photometry is 'type' dependent. Although the distribution of each type is not the same, the result is consistent. The percentage difference between IRAS flux density and LWS synthetic flux density is $\sim 15\%$. The detailed results of this study will be discussed.