

Mid-FIR properties of ELAIS sources

I. Márquez

Instituto de Astrofísica de Andalucía, Apdo 3004, 18080 Granada (Spain)

isabel@iaa.es

J. Masegosa

Instituto de Astrofísica de Andalucía, Apdo 3004, 18080 Granada (Spain)

T. Morel

Astrophysics Group, Imperial College of Science, Technology and Medicine, Blackett

Laboratory, Prince Consort Road, London, SW7 2BZ, UK

ELAIS consortium

The European Large Area ISO Survey (ELAIS) was the largest single Open Time project conducted by ISO. It mapped an area of 12 square degrees at 15μ with ISO-CAM and at 90μ with ISO-PHOT, together with a coverage of 6 and 1 square degrees at 6.7μ and 175μ , respectively. One of the main goals of the project was to be able to obtain greater understanding of the cosmological history of star formation, since ISO allowed to detect galaxies with high rates of star formation at much higher redshifts than IRAS.

We present the properties of all the galaxies detected by ISO at 7, 15 and 90μ in ELAIS northern fields. The spectral energy distribution (SED) of those 20 galaxies with IRAS detections can generally be well fitted by a predominant cirrus component plus a modest starburst contribution. For galaxies with higher $f_{15}/f_{6.7}$, a substantial starburst is required. Follow-up spectroscopy has shown that all the objects are emission-line galaxies but without a very intense star formation event. Most of the galaxies analyzed by means of optical R band photometry result to host an important exponential disk component, in good agreement with the SED IR modelling. We note that galaxies with morphological signs of perturbations seem to show higher $f_{15}/f_{6.7}$ ratios, indicating that star formation is more

important in them. One of the objects is a broad-line, radio-quiet quasar at $z=1.099$; its spectral energy distribution indicates that it is a hyperluminous infrared galaxy (HLIG), the first HLIG detected in the ELAIS areas.