THE NATURE OF THE EMISSION GALAXIES IN THE CANADA FRANCE REDSHIFT SURVEY (CFRS)

C. ROLA, L. TRESSE, G. STASIŃSKA AND F. HAMMER
DAEC, Observatoire de Paris-Meudon
Place Jules Janssen, 92195 Meudon Cedex, France

The nature of the emission-line galaxies up to $z \approx 0.3$ in the CFRS was analysed. The (4500−8500Å) spectral range allowed us to measure the H_α line intensity until $z \approx 0.3$ and to correct for reddening. This permitted us to examine the physical properties of these galaxies in the light of a new grid of photoionisation models, obtained with the code PHOTO (Stasińska 1990). This grid was used to define the loci for photoionisation by hot main sequence stars in two diagnostic diagrams. As ionisation source we used the Kurucz (1992) $\log g = 5$ stellar model atmospheres with abundances consistent with those of the model nebulae. The photoionisation models reproduce the separation zone between the objects thermally and non-thermally excited in the [S II] $\lambda 6725/H_\alpha$ versus [O III]$\lambda 5007/H_\beta$ diagnostic diagram, which Veilleux and Osterbrock (1987) determined empirically. A equivalent separation zone was defined for the [O III] $\lambda 5007/H_\beta$ versus [O II] $\lambda 3727/H_\beta$ diagram. In spite of its reddening dependence, this diagram is useful to separate the H II region-like galaxies from the non-thermally excited ones. Using both diagrams the analysis of the CFRS data allowed us to obtain the following statistics about the nature of the objects: about 20 % of all the galaxies with $z \leq 0.3$ have spectra with properties intermediate between Seyfert 2 galaxies and LINERs (compared to 2 % found in the local Universe; Huchra & Burg 1992). More details of this work are given in Tresse *et al.* (1994). A full version will be submitted to MNRAS.

References

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