TWO PECULIAR RADIO GALAXIES IN A1367

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We observed the cluster of galaxies A1367 to map the structure of the cluster and that of the radio galaxy 3C264. We report on 3C264 and on the peculiar galaxy UGC6697.

3C264

Fig.1 shows the 1.4 GHz map of the radio galaxy. The large scale morphology of the source belongs to the classical head-tail type with a twin-arm structure. The head contains a very large fraction of flux. A bright unresolved core coincides in position with the nucleus of the galaxy. Like in other sources of this type the spectral index increases from the core along the two arms as expected in the 'trail' model where radiative losses steepen the electron spectrum away from their origin. What is striking about this source is the broad, amorphous structure of the head as shown in Fig.2 at much higher resolution. In fact this component does not contain any jet or sign of collimation, the latter being, on the contrary, the characteristic of the source on the large scale. The observed morphology of the head seems to imply that energy collimation from the nucleus has, in the recent past, been destroyed, while the nucleus itself remained on an active stage, as demanded by the luminosity of the head. This fact is unique among other well known head-tail sources like NGC1265, where the collimation is mantained on all scales.

UGC6697

The present observations seems to rule out the interpretation given in Gavazzi (1978, A.A., 69, 355) where the asymmetry of the radio source associated with this late type galaxy was interpreted as the relativistic material was swept out from the galaxy disk by ram pressure stripping (trail model). In fact the high resolution radio and optical observations shown here match very closely: both are very asymmetrical with a steep brightness gradient to one side and a long smooth tail on the other (Fig.4). The distribu-

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tion of the spectral index (Fig.3) is remarkably steep and constant along the source. It does not show high frequency cut-off or ageing of the electrons along the radio tail. The evidence of optical low surface brightness features in the tail suggests that star formation is undergoing in the region where radio radiation shows up. Ram pressure stripping could provide the necessary mechanism to sweep matter from the disk of the galaxy in to the far tail.

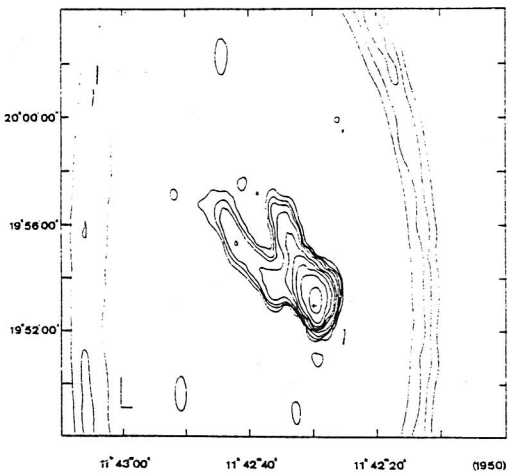

Fig.1: 1.4 GHz map of 3C264

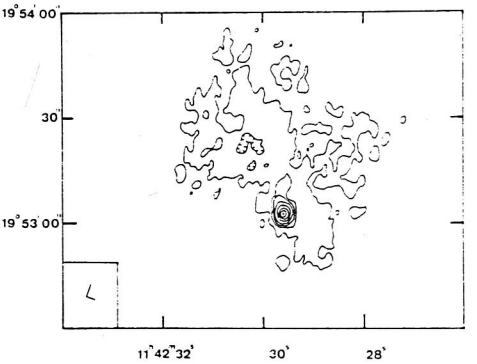

Fig.2: 4.9 GHz map of the head and core of 3C264

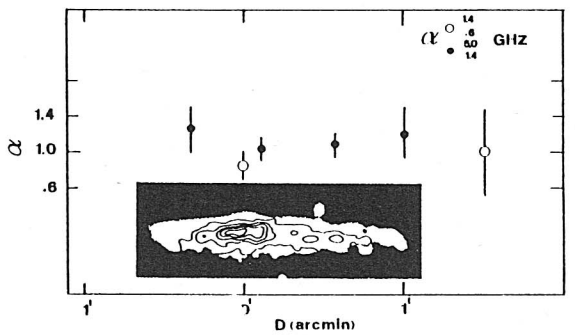

Fig.3: 1.4 GHz VLA map of UGC6697 (2".6x5".1 res.) with three frequencies spectral index distribution

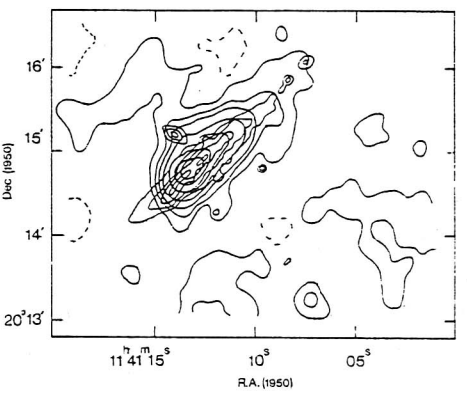

Fig.4: 1.4 GHz VLA map of UGC 6697 (17"x20" res.) superposed on blue isophotes

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