

## ON THE ARM PATTERN OF M33

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By comparison of U and B plates of M33 we extended the enumerations of Humphreys and Sandage (1980) adding 54 new OB associations. The associations identified by HS are outlined with continuous line and ours are represented with dash on Figure 1. Many of the identified by us associations are near the nucleus of M33. Due to U plate used by us the background in the central region is fainter than that on the B plate and the associations are distinguished very well on U plate (Kunchev and Ivanov, 1984). Our associations of the outer region of M33 consist mainly of relatively fainter young B stars.

The position angle of the major axis  $PA = 22^{\circ} \pm 5^{\circ}$  and the inclination of the plane of the galaxy  $i = 57^{\circ}$  are derived using 197 associations. The logarithmic spirals with a pitch angle  $i = \arctan 0.69 = 34^{\circ}.6$  well fit the distribution of the associations. The spiral arms in the southern and in the northern part are symmetrically disposed one another except arm N4.

We explained the spiral arm structure without any assumption for warp plane. It is possible for the plane of M33 to be slightly warped in the central region (Maucherat et al., 1984).

### REFERENCES :

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Maucherat, A. J., Dubout-Crillon, R., Monnet, G., Figon, P. 1984, Astron. Astrophys. 133, 341.

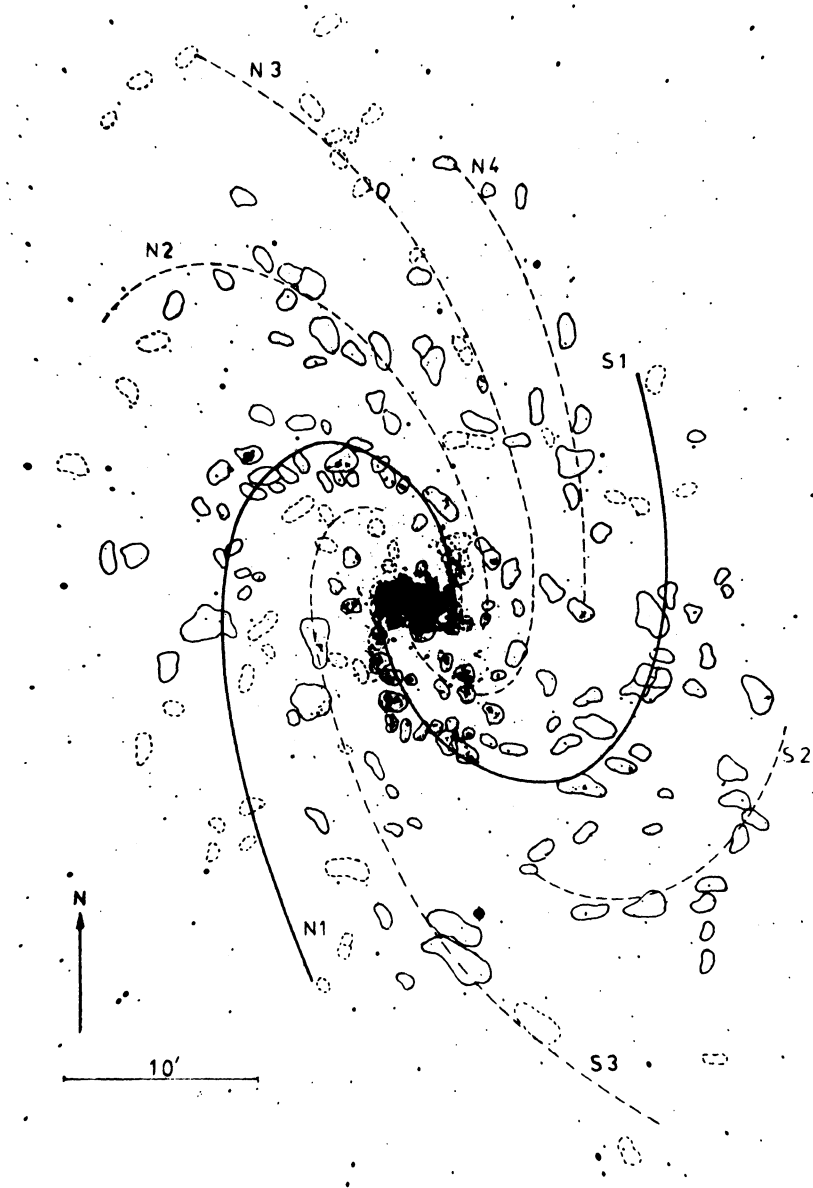


Figure 1. The systems of logarithmic spirals superimposed on B plate. The stellar associations indicated by Humphreys and Sandage (1980) are outlined with line and ours - with dash.