

HI IN NGC 4594

E. BAJAJA * y W.W. SHANE **

* (Instituto Argentino de Radioastronomía - CONICET) y

** (Sterrewacht Leiden - Holanda)

High resolution 21 cm line observations of NGC 4594 have been carried out with the WSRT. The velocity range observed was 1090 to 1710 km s^{-1} on 32 channels, 27 km s^{-1} wide, spaced 20 km s^{-1} . This range covered the velocities observed on the east half of the galaxy.

The synthesised antenna pattern resulted very elongated in the north south direction (24" x 122") because of the low southern declination ($-11^{\circ}25'$). The observation, in consequence, consisted essentially in a scanning along the major axis of the galaxy. The antenna pattern also had large side lobes because of the impossibility of observing the galaxy during 12 hours continuously from Westerbork (max=8.6 hours).

After the convolution by appropriate functions, and the subtraction of continuum point sources and associated rings, a set of 32 channel maps was produced. A marginally detectable HI feature was put in evidence on a velocity-position map when the 32 channel map cross cuts, along the major axis, of the galaxy were put together.

The total HI mass for NGC 4594 derived from this map is about $13 \times 10^8 M_{\odot}$ (at a distance of 18.6 Mpc). The peculiar configuration of the HI indicates its concentration along a ring (or maybe two) but simple models do not reproduce all the basic features. The systemic velocity according to these results is close to 1100 km s^{-1} . The radius of the outermost HI ring (if not the only one) is about 15 kpc and its half power width 6 kpc. From these values it is evident that the gas is concentrated in the inner side of the dust ring. The highest HI observed velocity is 350 km/s.