



ASKAP observations of the starburst galaxy NGC 253



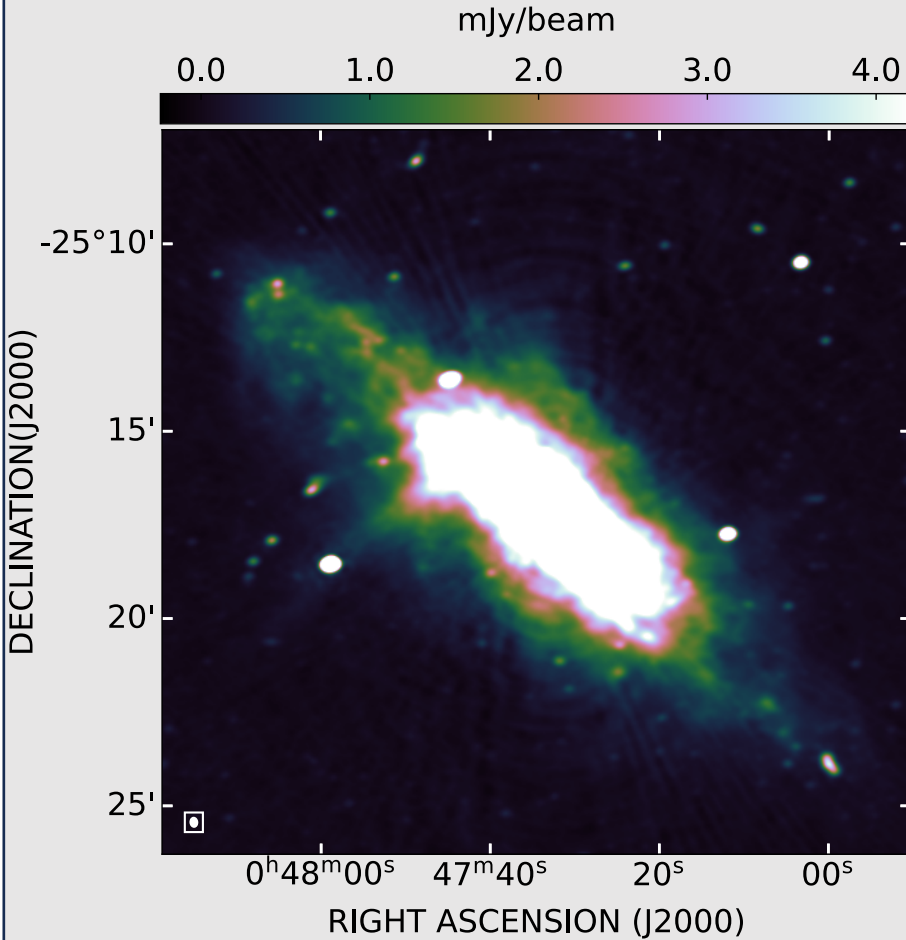
Shengtao Wang

wangshengtao@itc.ynu.edu.cn

Yunnan University

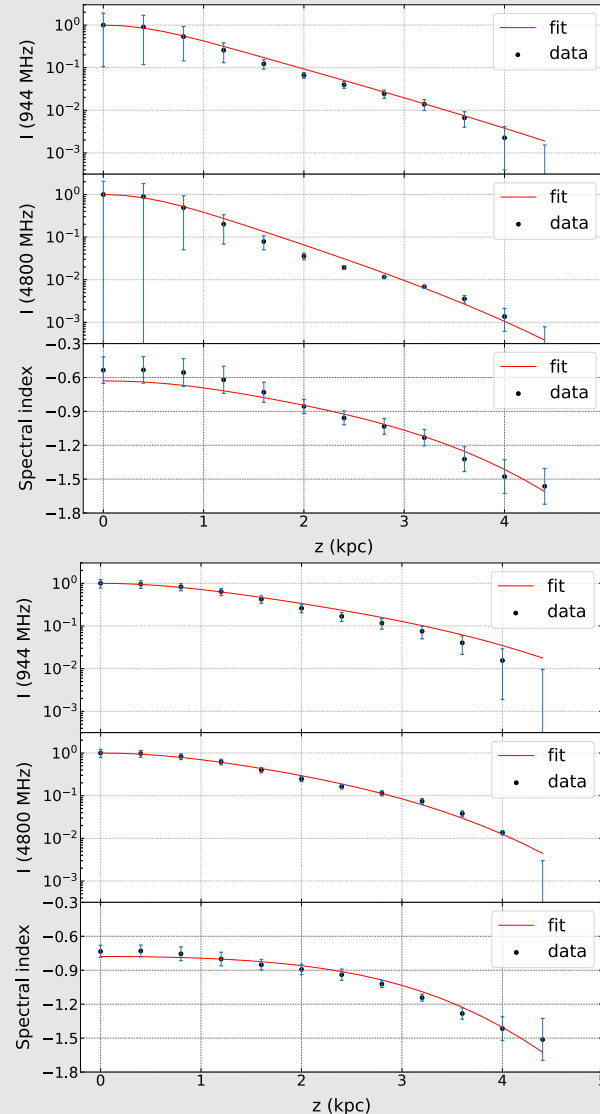
Collaborators: George Heald (CSIRO), Stefan Duchesne (CSIRO), Xiaohui Sun (YNU)

Total intensity image



Frequency: 944 MHz Imaging: WSClean
 Resolution: 13.5'' RMS: 32 μ Jy/beam

Cosmic-ray electrons transport



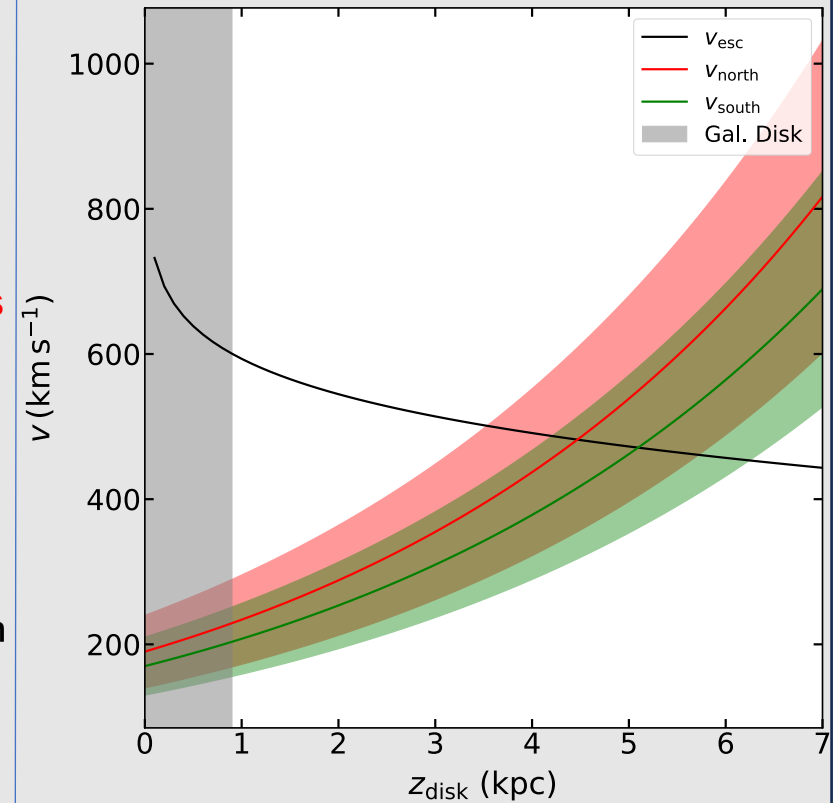
Center:
 $R > 5$ kpc

Advection
dominates

Away from
center:
 $R > 5$ kpc

Diffusion
dominates

Wind speed



From model fitting, wind speed at center:

- About 200 km s⁻¹ at the disk
- Reaching escape speed at height of about 4 kpc