

## A TWODIMENSIONAL IONISATION MODEL OF NGC 2440

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**Abstract.** NGC 2440 is one of the most prominent butterfly- shaped nebula in the sky. It has a very rich spectrum up to high ionic species. Its central star is handled as one of the hottest central stars. We present a 2-dimensional cylindrically symmetric ionisation model of this nebula. Under the assumption that the main nebula axis lies perpendicular to the line of sight and achieving the inverse Abel-transformation, the density distribution could be calculated using a monochromatic H $\alpha$ -CCD-image. The gridsize of the model was chosen to 0.38 arcsec (=pixel size of the image). Due to the fact that in a cylindrically symmetric model only a half plane has to be calculated, the total grid has a size of (-100..100, 0..100). The procedures determining the ionisation state is principally the same we used for our 3D-model of NGC 3132 (Bässgen et al 1990). If the ionic densities and the electron temperatures in all volume elements are known, emission line strengths and artificial monochromatic images can be calculated. These can be compared with "real" monochromatic images.

The physical parameters which yielded the best agreement with observations are given in the following table.

Distance of the object	500 pc
Teff of Central Star	125,000 K
Luminosity of Central Star	260 L $_{\odot}$

That means that the object is much closer than previous estimations suggested. We also could not confirm proposed central star temperatures of more than 200,000 or 300,000 K. In a paper which is in preparation we will present our results in a more detailed manner.

### References

Bässgen M., Diesch, C., Grewing, M. 1990, *Astron. Astrophys.* 237, 201