

## Reading #1 - Sgr A\*

The first week's reading for PHY250 is on Sagittarius A\*, a compact radio source and an extremely convincing massive black hole candidate.

The primary reading is the distributed article, *Nature* Vol. 419, pp. 694-696, titled "A star in a 15.2 year orbit around the supermassive black hole at the centre of the Milky Way", published 17 Oct 2002. This article is highly technical and I don't expect you to understand it all. Work on techniques for extracting as much from it as you can: read the introduction, look at the figures, and then read the conclusion. Save scanning the middle of the paper for the last step. Look up supporting materials (some described below). Look up vocabulary from introductory resources.

A slightly less technical web page is at <http://www.mpe.mpg.de/ir/GC/index.php>.

Much information is available at other locations, for example the notes from an astronomy class at

[http://www-astronomy.mps.ohio-state.edu/~ryden/ast162\\_7/notes31.html](http://www-astronomy.mps.ohio-state.edu/~ryden/ast162_7/notes31.html).

Go to [www.sciam.com](http://www.sciam.com), enter a search for "Sagittarius A" and look at the 1/11/2005 article.

Terms you might want to study include

- Black hole
- Schwarzschild radius
- Event horizon
- The symbol for solar mass
- Pericentre (pericenter in American English) and apocentre (again, see American version).
- Near-infrared