omicron Ceti

Omicron Ceti, also known as Mira, is justifiably one of the most famous of the variable stars, and dear to many variable star observers -- especially those who use our website, mira.aavso.org! Omi Cet, discovered in 1596, was declared 'miraculous' by its early observers for appearing and disappearing from view with a regular cycle of around 11 months. We know today that omi Cet and the other *Mira variables* are very evolved, giant stars undergoing large-amplitude pulsations that make them periodically brighten and dim by several magnitudes. These stars are giant in size -- most are comparable in diameter to the orbits of Earth or Mars -- but at the same time have masses only slightly larger than that of the Sun. They're all nearing the ends of their lives, too, and their remaining lifespans as 'stars' is measured in tens or hundreds of thousands of years rather than millions or billions. After the Mira phase, they'll soon become planetary nebulae and shed most of their mass to space, leaving behind only their cores as white dwarfs. It takes hundreds of days for their pulsations to complete a cycle because of their great size. They're among the most numerous variable stars known since their great amplitudes made them easy to find. The AAVSO has light curves for several hundred of them spanning many decades, of which Mira's itself is the brightest, and among the best-observed.

In 2011, Mira reached one of its brightest observed maxima in history, reaching $m(vis) \sim 2.2$ in mid-September. It's maximum in 2012 was quite a bit lower -- around m(vis) = 3.2.

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