Talk at Splinter Meeting

Splinter B

The distance of OH 83.4-0.9 using maser time-delay measurements

S. Etoka[1], D. Engels[1]

[1] *Hamburger Sternwarte, Universität Hamburg, Gojenbergsweg 112, 21029 Hamburg*

OH/IR stars are AGB stars with an optically thick circumstellar envelope of dust and gas commonly exhibiting ground-state OH maser emission at 1612 MHz. With a typical extent of 10000 AU (corresponding to 1.25 arcsec at 8 kpc and 0.2 arcsec at 50 kpc), these objects can be used to determine distances throughout the Milky Way and potentially beyond as far as the LMC and SMC via the so-called "phase-lag method" (a method using "time delay"). This method combines the linear diameter of the circumstellar shell, obtained from the time-delay measurement of the variability curves of back and front sides of the shell, with the shell angular diameter obtained from interferometry. We present here the distance determination of OH 83.4-0.9 using such a method, based on eMERLIN observations and a NRT (Nancay Radio Telescope) monitoring program.