

## The SiO Molecule in the Atmospheres of Cool AGB Stars

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We have computed a large grid of synthetic SiO spectra based on hydrostatic atmospheres calculated with the MARCS code (Gustafsson et al. 1975, *A&A*, 42, 407). The results are compared to observations of the SiO features in the photometric *L* band, which have been obtained using the cooled grating spectrograph IRSPEC at the ESO NTT. They cover a sample of 23 AGB stars. Since the observed SiO bands are much weaker than the calculated ones, we discuss different explanations for this behavior focusing on the effects of dynamic phenomena such as pulsation, mass loss and dust formation. We also present exploratory synthetic SiO spectra based on dynamic atmospheres.

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