

## RECENT RESULTS FOR WIDTHS OF LINES IMPORTANT IN THE SPECTRA OF COOL STARS

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Accurate pressure broadened profiles are required for the modelling of atmospheres of cool stars, including the Sun. The accuracy of calculations depends on two main considerations: the accuracy of the interatomic potentials that are used and the validity of the theory of spectral line broadening that is employed. The present fully quantum-mechanical calculations of the line widths are based on the original theory of Baranger in which the problem is reduced to considering only binary atom-perturber collisions, but in which the additional impact approximation is not made. This means that the complete wavefunctions for the atom-atom scattering processes are included rather than just their asymptotic forms.

Results will be shown for applications to various spectral lines including lines of alkalis and rare gases broadened by hydrogen and rare gas perturbers.