

Invited lecture

**THE BROADENING OF SPECTRAL LINES BY COLLISIONS
WITH NEUTRAL HYDROGEN ATOMS IN COOL STARS**

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I will review the theory of broadening of metallic spectral lines by neutral hydrogen atom collisions developed by Anstee, Barklem and O'Mara. I will discuss why the theory works, while able to retain the wide range of applicability needed for astrophysical applications. I will discuss the present status of large scale calculations for many spectral lines for neutral and singly ionised species. Some examples of application to analysis of cool star spectra will be discussed. Time permitting, the extension of the theory to self broadening of hydrogen lines will be discussed briefly.