

STARK BROADENING OF ISOLATED LINES FROM  
MULTIPLY CHARGED IONS

By

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When calculating the Stark widths of isolated lines of multiply charged ions with several bound electrons, radiated by dense, hot plasmas, the existing theories of Stark broadening <sup>(1, 2)</sup> which have been applied mainly to lower-temperature measurements on singly-ionized species, need to be modified in several respects. These modifications involve taking more careful account of the complexities of the particular atomic structure: e.g. deviations from LS coupling, configuration mixing, and optically forbidden transitions. Earlier work, <sup>(3-5)</sup> showing explicitly the relationship between the Stark widths and the oscillator strengths for the collision-induced transitions which contribute to the width, is extended. Some of the principles involved will be discussed and, if time permits, comparison will be made between calculations and the results of several critically selected experiments <sup>(6)</sup> on spectral lines in the near UV (2000-3500 Å).

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