

THE RADIO LINES OF HYDROGEN

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It was first suggested by Kardashev [1], that it should be possible to detect radio recombination lines in HII regions and Griem [2] and Peach [3, 4] used the impact theory of line broadening to estimate line widths. Various problems have arisen over the years in comparisons between theory and observation and have been attributed to numerous causes such as detection techniques and the use of uniform density models of the nebulae. Observations of the radio lines and their analysis have subsequently been greatly refined, see Bell [5] for a detailed discussion of these developments. It has now become clear that there are discrepancies between theory and observation that have not been satisfactorily explained, see Griem [6] and Gordon and Sorochenko [7].

It is therefore desirable that the theoretical approach to the line broadening problem should be reexamined, and new calculations carried out. Results will be presented at the conference.

References

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