

Extraction of Poloidal Velocity From Charge Exchange Recombination Spectroscopy Measurements*

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A novel approach has been implemented on DIII-D to allow the correct determination of the plasma poloidal velocity from charge exchange measurements. Unlike usual techniques, the need for detailed atomic physics calculations to properly interpret the results is alleviated. Instead, the needed atomic physics corrections are self-consistently determined directly from the measurements, by making use of specially chosen viewing chords. Modeling results are presented to support the capability of the recently upgraded system. We also present preliminary measurements providing the first direct comparison of the standard cross-section correction to the atomic physics calculations.

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