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【954】 Determination of Nitrogen Concentrations in Fusion Plasmas from Filtered Camera Images

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This study presents methods for determining 2D plasma parameters from filtered camera images in a toroidally symmetric tokamak. Filtered cameras offer high spatial resolution and the ability to generate 2D electron temperature, electron density, neutral density, and impurity species maps. The application of such methods are of interest in divertor physics and for more exotic studies such as plasma generation for machine-wall conditioning. This study will in particular focus on the determination of the nitrogen concentration in the divertor and plasma core, since low-Z impurities are the key to control the power exhaust problem in fusion devices.

Theoretical Work

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