

Fast Ion D_α Imaging in the DIII-D Tokamak

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Abstract.

Doppler shifted Fast Ion D_α light (FIDA) emitted by neutralized energetic ions is imaged in the DIII-D tokamak using a fast framing camera in conjunction with a narrowband interference filter. Both the 2D spatial structure and temporal evolution of the FIDA emission, are in excellent agreement with Monte Carlo simulations assuming classical energetic ion slowing down. This technique can be used to obtain 2D energetic ion profile information in fusion plasmas.