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Error Analysis on Statistical Filament Data from Stereoscopic Fast Cameras on MAST[1] RYAN CHABAN, William Mary, TOM FARLEY, UKAEA, SASKIA MORDIJCK, William Mary, NICK WALKDEN, FULVIO MILITELLO, JAMES HARRISON, ANDREW KIRK, UKAEA — Fast camera images are tomographically inverted using a magnetic field line based technique to generate data on filamentary structures as they cross the separatrix and propagate through the SOL. This technique has been developed on MAST for a one-camera setup, and in a 2009 campaign stereoscopic cameras were mounted collecting synchronized data. We use this data to study the veracity of the diagnostic by comparing the statistical distributions derived from each camera separately and using both cameras' data with a shift optimization and correlation. The statistical distribution parameters for each camera agree for major and minor axis blob size. The parameters disagree for blob amplitude, however this is expected in the absence of absolute camera sensitivity calibrations. Lognormal fits to the blob radial displacement from separatrix show close agreement in the positions of their peaks, but inconsistencies in their shape parameters. The uniform distribution fit to the toroidal blob position is systematically shifted 5 cm suggesting the position of the camera affects the location sensitivity of the detections. This agrees with our optimization technique which shows a consistent shift between the cameras implying uncertainty in a single camera inversion of +/- 0.5 cm radially and +/- 5 cm toroidally.

Ryan Chaban
William
Mary

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