

Abstract Submitted
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Enhanced Charge Exchange Recombination Spectroscopy Measurements on the Joint European Torus.¹ T.M. BIEWER, D.L. HILLIS, Oak Ridge National Laboratory, R.E. BELL, Princeton Plasma Physics Laboratory, C. GIROUD, A.G. MEIGS, C.R. NEGUS, K.-D. ZASTROW, EURATOM/UKAEA Fusion Association, A.D. WHITEFORD, Dept. of Physics, University of Strathclyde, JET EFDA COLLABORATION — During the shutdown of 2004/5 the Joint European Torus (JET) charge exchange recombination spectroscopy (CXRS) system underwent a major upgrade. As part of the upgrade two new spectrometers were added to the suite of CXRS diagnostics. The new spectrometers complement and enhance the existing CXRS measurement capabilities on JET. These high-throughput, transmission grating instruments allow measurements down to 5 ms resolution. One instrument is optimized for the 529.1 nm C VI line, while the other instrument is optimized for the 468.5 Be IV and 468.6 He II lines. This allows for the assessment of CXRS measurements in a carbon-free machine (Be IV) and for alpha particle (helium ash) CXRS in future D-T experiments. Results from the new instruments will be compared to measurements from the existing, upgraded systems, and will include analysis using the new CXSfit routine, developed to supplement KS4fit.

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