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Optical transition Radiation System for ATF2

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In this paper we describe the first measurements performed during fall 2010- begin 2011, software development, realistic simulations and new hardware improvements of a Multi-Optical Transition Radiation System installed in the beam diagnostic section of the Extraction (EXT) line of ATF2, close to the Multi Wire Scanner System. 2D emittance measurements are done with success and the system is being used normally for coupling correction. Realistic beam simulations have been made and they have been compared with the measurements. A 4D emittance procedure will be implemented and some measurements have been performed. A double optical system including a demagnifier lens to improve the beam finding procedure has been designed and will be implemented in a future.

A systematic measurement campaign will take place by the recovering of ATF operations due to the 2011 Tohoku Earthquake, then a comparison with wire scanners can be done. This will be a definitive test of the OTR as a beam emittance diagnostic device, which will give the ability to have a fast beam emittance measurement with high statistics, giving a low error and a good understanding of emittance jitter.

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