

Abstract Submitted  
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**Reflectometry diagnostics on TCV** PEDRO MOLINA CABRERA, STEFANO CODA, LAURIE PORTE, NICOLA OFFEDDU, Swiss Plasma Centre - Swiss Federal Institute of Technology, TCV TEAM<sup>1</sup> — Both profile reflectometer and Doppler back-scattering (DBS) diagnostics are being developed for the TCV Tokamak using a steerable quasi-optical launcher and universal polarizers. First results will be presented. A pulse reflectometer is being developed to complement Thomson Scattering measurements of electron density, greatly increasing temporal resolution and also effectively enabling fluctuation measurements. Pulse reflectometry consists of sending short pulses of varying frequency and measuring the roundtrip group-delay with precise chronometers. A fast arbitrary waveform generator is used as a pulse source feeding frequency multipliers that bring the pulses to V-band. A DBS diagnostic is currently operational in TCV. DBS may be used to infer the perpendicular velocity and wave number spectrum of electron density fluctuations in the 3-15 cm<sup>-1</sup> wave-number range. Off-the-shelf transceiver modules, originally used for VNA measurements, are being used in a Doppler radar configuration.

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