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A Vertical ECE Diagnostic for TCV[1] L. PORTE, S. CODA, S. ALBERTI, R. BERTIZZOLO, R. CHAVAN, J-M. MAYOR, V. UDINTSEV, Ecole Polytechnique Federale de Lausanne (EPFL), Centre de Recherches en Physique de Plasmas, Association EURATOM Confederation Suisse, 1015 Lausanne, A. SIMONETTO, Instituto di Physica del Plasma, Associazione EURATOM-ENEA-CAN, Via Cozzi 53, 20125 Milano, Italy — With ECRH power density unrivalled in the fusion community, TCV is in a unique position to study fast-electron dynamics in regimes where quasi-linear effects dominate. TCV is equipped with a comprehensive suite of ECE heterodyne radiometers that covers the first three ECE harmonics. A new vertical line of sight will be installed which will allow measurements to be made whose interpretation is straightforward and yields direct information on the fast electron energy distribution. The line will be equipped with a glass ceramic (MACOR) beam dump mounted in the vacuum vessel while the focussing optics will be placed in air behind a quartz window. An oversized, corrugated transmission line will transport the radiation from the tokamak to the radiometers. The diagnostic layout and the physics potential will be described.

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Stefano Coda
Ecole Polytechnique Federale de Lausanne (EPFL),
Centre de Recherches en Physique de Plasmas,
Association EURATOM Confédération Suisse

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