## Abstract Submitted for the DPP17 Meeting of The American Physical Society

Development of PETAL diagnostics: **PETAPhys**  $project^1$ D. RAFFESTIN, G. BOUTOUX, Universite de Bordeaux/celia, J. BAG-GIO, CEA/DAM/Cesta, D. BATANI, Universite de Bordeaux/celia, N. BLAN-CHOT, D. BRETHEAU, CEA/DAM/Cesta, S. HULIN, E. D'HUMIERES, Universite de Bordeaux/celia, F. GRANET, TH. LONGHI, CH. MEYER, CEA/DAM/Cesta, Q. MORENO, R. NUTER, Universite de Bordeaux/celia, J. RAULT, CEA/DAM/Cesta, V. TIKHONCHUK, Universite de Bordeaux/celia, UNIVERSITE DE BORDEAUX/CELIA TEAM, CEA.DAM/CESTA TEAM — Beginning of autumn 2017, PETAL, a Petawatt laser beam, will be operated for experiments on the LMJ facility at the CEA/ Cesta research center. The PETAPhys project provides a support to the qualification phase of the PETAL laser operation. Within the PETAPhys project, we are developing two simple and robust diagnostics permitting both to characterize the focal spot of the PETAL beam and to measure the hard X-ray spectrum at each shot. The first diagnostic consists in optical imaging of the PETAL beam focal spot in the spectral range of the second and third harmonic radiation emitted from the target. The second diagnostic is a hard X-ray dosimeter consisting in a stack of imaging plates (IP) and filters, either placed inside a re-entrant tube or inserted close to target. Numerical simulations as well as experiments on small scale facilities have been performed to design these diagnostics. If available, preliminary results from PETAL experiments will be discussed.

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