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## Tests of the fibre-optic FLASH beam monitor with laser-accelerated electron beams

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Very High Energy Electron therapy has shown promising results for radiation therapy using shorter and higher energy electron bunches, 100-250 MeV, than conventional electron therapy. One of the key challenges for VHEE is the need for a linear, non-perturbative beam monitor for these bunches. One of the authors, J. Bateman has developed the fibre-optic FLASH monitor (FOFM) [1], which images the Cherenkov radiation from an array of fibre optics to retrieve the charge and beam profile of an electron beam. This device was tested on the RF accelerator CLEAR, but never on a LWFA. Here we describe the results of the first experiments to demonstrate the operation of the FOFM monitor on a LWFA generated electron beam. The experiments were conducted on the recently upgraded 25 TW Ti:Sapphire laser at OPAL (Oxford Plasma Accelerator Laboratory) alongside commissioning of the accelerator.

[1] Bateman, J. J., Buchanan, E., Corsini, R., Farabolini, W., Korysko, P., Garbrecht Larsen, R., Malyzhenkov, A., Ortega Ruiz, I., Rieker, V., Gerbershagen, A., & Dosanjh, M. (2024). Development of a novel fibre optic beam profile and dose monitor for very high energy electron radiotherapy at ultrahigh dose rates. *Physics in Medicine and Biology*, 69(8). <https://doi.org/10.1088/1361-6560/ad33a0>

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