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## UV/X-ray Diffraction Radiation for Non-intercepting Micron-scale Beam Size Measurement

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Diffraction radiation (DR) is produced when a relativistic charged particle moves in the vicinity of a medium. The electric field of the charged particle polarizes the target atoms which then oscillate, emitting radiation with a very broad spectrum. The spatial-spectral properties of DR are sensitive to a range of electron beam parameters. Furthermore, the energy loss due to DR is so small that the electron beam parameters are unchanged. Therefore DR can be used to develop non-invasive diagnostic tools. The aim of this project is to measure the transverse (vertical) beam size using incoherent DR. To achieve the micron-scale resolution required by CLIC, DR in UV and X-ray spectral-range must be investigated. During the next few years, experimental validation of such a scheme will be conducted on the CEsrTA at Cornell University, USA. Here we present the current status of the experiment preparation.

**Primary author:** Dr BOBB, L. (John Adams Institute at Royal Holloway, Egham, Surrey, United Kingdom)

**Co-authors:** Dr BILLING, M. (Cornell University, Ithaca, New York, USA); Dr CHRITIN, N. (CERN European Organisation for Nuclear Research, CERN, Geneva, Switzerland); Prof. KARATAEV, P. (John Adams Institute at Royal Holloway, Egham, Surrey, United Kingdom); Dr LEFEVRE, T. (CERN European Organisation for Nuclear Research, CERN, Geneva, Switzerland)

**Presenter:** Dr BOBB, L. (John Adams Institute at Royal Holloway, Egham, Surrey, United Kingdom)

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