

Radiation Protection at ELI Beamlines: A Unique Laser Driven Accelerator Facility

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The Extreme Light Infrastructure (ELI) Beamlines is a laser driven accelerator facility located in the outskirts of the city of Prague. With its state-of-the-art lasers, it will carry out an ambitious and diverse research program. Activities at ELI Beamlines can be broken down in complementary areas of scientific interest: development and testing of novel technologies for multi-PW laser systems, plasma physics, high field physics experiments (with intensities up to of 10^{24} Wcm⁻²), production of femtosecond secondary sources of ionizing radiation (extreme ultraviolet radiation, X rays, gamma, electrons, and protons) to be used in interdisciplinary applications in physics, biology, medicine, and material sciences. In-house experiments are already taking place since the first half of 2018, first user calls and experiments started in 2019.

In this contribution, the ELI Beamlines accelerator facility and its current status of operation are presented in more details. Particular attention is paid to the design and implementation of the radiation protection program, with emphasis on the unique challenges this laser facility poses in terms of radiation safety.

Secondary track (number)

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