

Laser Plasma based Nuclear Reactions and Applications

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Abstract

The lecture will cover different aspects of laser-driven nuclear physics in plasmas. The core part will be focused on nuclear processes occurring in laser-generated plasmas. Novel approaches used to enhance the yield of nuclear reactions in plasmas, including non-conventional fusion reactions such as proton-boron fusion, will be widely discussed. A brief overview of current diagnostic techniques used to characterize the products of nuclear reactions occurring in harsh laser-plasma environment will be shown. Potential multidisciplinary applications of laser-driven nuclear fusion, beyond inertial confinement fusion, will also be reviewed.

References

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