

## **Nuclear Physics Experiments at ELI-NP: The Future is Emerging**

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### **Abstract**

At the Extreme Light Infrastructure Nuclear Physics facility (ELI-NP), a high-power laser system and a high-brilliance gamma beam system are the main research tools. Selected topics of the emerging experimental program with high-power lasers and high-brilliance gamma beams at ELI-NP will be presented. In particular, the physics cases of the nuclear resonance fluorescence, nuclear astrophysics and photofission flagship day-one experiments under preparation will be discussed. The expected performance of the related instruments which are under construction for their realization will be presented.

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