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A compact Laser based Neutron source

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Several experiments of neutron generation using high intensity laser sources, with a power exceeding 10^{19}W/cm^2 via TNSA (Target Normal Sheath Acceleration) or other similar methods, have been performed in the past years in different laboratories. However, so far there is no one running neutron source based on such a technology. In the framework of the Conceptual Report Design of a new accelerator in at LNF-Frascati we are studying the possibility to have a laser-based neutron source, not only by TNSA but also from selfinjection schemes.

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