

Designing Safety into a High-Power Neutron Spallation Source

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Recent testing of two advanced high-power neutron spallation sources MEGAPIE and EURISOL have yielded a wealth of experimental data and operational experience that is of relevance to efforts currently under-way to develop a safe, reliable neutron source. The neutron spallation source must be maintenance-free and inherently safe to operate. The radio-toxic inventory in the liquid metal must at all times be contained within successive layered barriers to avert contamination in the event of an accident. The presentation reviews constraints in terms of the general layout of the neutron source and shows how liquid metal neutron source design may be improved compared to the current state of the art.

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