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Development and Applications of the RF-driven Ion Source *

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Abstract

RF driven ion sources have been developed at the Lawrence Berkeley National Laboratory for more than a decade. This type of ion source can be operated with 2 or 13.5 MHz in either cw or pulsed mode for positive or negative ion beam production. In order to achieve long-life and reliable operations, various ion source and RF antenna configurations have been investigated. Application of the RF ion source includes spallation neutron source, ion implantation, ion beam lithography, focused ion beam systems, BNCT and brachytherapy and intense neutron generators. The latest RF driven ion source technology will be presented.

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