

Energy Efficiency of Accelerator Driven Sub-critical Reactors for Nuclear Waste Transmutation

Energy efficiency is a major criterion for modern economic decision-making. However, in matter of nuclear energy, the costs of nuclear waste disposal are generally externalized by passing them to the environment or to future generations. In this study, we investigate the impact of the accelerator on the overall efficiency of an Accelerator Driven Sub-critical Reactor aimed for nuclear waste transmutation and for better fuel utilization. Several considerations include the transmutation characteristics, the wall-plug efficiency of the accelerator as well as the technology choice.

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