

Abstract Submitted
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On Production and Optimization of Hybrid Spin Exchange Optical Pumping Polarized ^3He Targets PETER DOLPH, KAREN MOONEY, GORDON CATES, VLADIMIR NELYUBIN, JAIDEEP SINGH, WILLIAM TOBIAS, University of Virginia — Hybrid spin exchange optical pumping consistently outperforms pure alkali SEOP. Hybrid cells contain an alloy of potassium and a small amount of rubidium, whereas conventional cells contain a single species of metal, typically Rb. K- ^3He spin exchange is more efficient than Rb- ^3He . Consequently, less laser power is required to achieve a higher noble gas polarization with the benefit of a shorter polarization buildup time. The hybrid technique has been successfully employed in the large scale production of target cells for use in nuclear physics experiments and shows great potential for use in medical imaging. The production of hybrid alloys, optimization, and results will be discussed.

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