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JLab Polarized ^{3}He Target Upgrade KAI JIN, Univ of Virginia, JLAB POLARIZED 3HE TARGET GROUP COLLABORATION — The polarized ^{3}He target is being upgraded for the upcoming 12 GeV experiments at Jefferson Lab. The target is based on optical pumping of an alkali vapor and the subsequent spin exchange between the polarized alkali atoms and the ^{3}He nuclei. In the upgrade, we aim to increase the luminosity by a factor of 2 in the first stage, from 1×10^{36} cm^{-2}s^{-1} to 2×10^{36} cm^{-2}s^{-1}, and another factor of 3 in the second stage, to 6×10^{36} cm^{-2}s^{-1}, while maintaining a maximum in-beam polarization of 60% or higher. In order to achieve a higher polarization with high beam current, a newly-designed convection cell filled with a Rb-K mixture is adopted. Narrow line-width diode lasers are also used to obtain higher optical-pumping efficiency. Tests to reach the upgrade goals are on-going. The details of the plan, progress and preliminary results of the upgrade will be presented in this talk.

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