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Measurement of two-halo neutron transfer p(^{11}Li,^{9}Li)t reaction at 3*A* MeV

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The p(^{11}Li,^{9}Li)t reaction has been studied for an incident ^{11}Li energy of ∼3*A MeV delivered from the new ISAC-2 facility at TRIUMF. The experiment was undertaken using MAYA, an active target detector. Angular distibutions for the centre of mass system have been determined for scattering angles from 20 to 160 degrees, and for transtions to the ^{9}Li($3/2^{-}$) ground state and the first excited state ^{9}Li($1/2^{-}$:2.69 MeV). Coupled channel calculations using different model ^{11}Li wave functions, indicates that functions that take account of the strong correlations between the outer neutrons are the most sucessful in reproducing the observed differential cross sections.