**Analysis of 22N + 9Be Reaction Data Through Glauber Model at 700 MeV/u Beam Energy**

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The one neutron knockout reactions induced by the 22N [1,2] projectile (neutron halo) on the 9Be target at 700 MeV/u lab energy have been investigated by considering the low-lying excited states of projectile 22N ($1^{-}$ and $2^{-}$) along with different excited states of core 21N. Specifically, the one neutron breakup cross section and width of the outgoing core's longitudinal momentum distribution (LMD) corresponding to all possible projectile configurations have been computed and compared with available data. All the calculation was done using the CSC\_GM computer code [3] based on Eikonal approximation for calculating the one-neutron removal cross section and LMD of core fragment. This code strongly depends upon nucleon-nucleon (NN) interactions and relevant nuclear densities as inputs to calculate the total one neutron removal cross section. The predicted one-neutron removal cross-section and LMD width are lying close to the experimental results when one of these configurations    $1/2\_{1}^{-}$ $⨂$ $2s\_{1/2}$ ($J^{π}=0^{-}$),   $1/2\_{1}^{-}$ $⨂$ $2s\_{1/2}$ ($J^{π}=1^{-}$) and $3/2\_{1}^{-}$ $⨂$ $2s\_{1/2}$ ($J^{π}=2^{-}$) [4,5] represents the structure of 22N.

Further, it is asserted that the measured LMD width has been reproduced by considering the admixture of the s state (70-90%) with the d state (30-10%). So, from these results, we concluded that an admixture of the s and d state configurations reproduced the experimental data.

**References**

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