^{9,10,11}Be+^{64}Zn REACTIONS AT THE COULOMB BARRIER

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In the last years, a lot of paper have been published concerning reaction studies with halo and weakly bound nuclei, around the Coulomb barrier. In the experiments fusion and reaction cross-sections have been measured in order to understand the effects of coupling to the continuum onto the reaction processes [e.g. 1]. However, the results of the experiments performed and of the theoretical models developed have not lead to an unique conclusion. The experiments involving halo nuclei were performed mainly using ^{6}He [e.g. 2-5] beams on different targets. Only the system ^{11}Be+^{209}Bi has been studied with the one neutron halo ^{11}Be [6,7] using a fragmentation ^{11}Be beam, whose energy was degraded down to the Coulomb barrier.
In this contribution, results concerning different reaction channels for the collisions ^{9,10,11}Be+^{64}Zn at energies around the Coulomb barrier will be presented. The experiments with the radioactive beams were performed using for the first time the high quality post-accelerated ^{10,11}Be beams delivered by the REX-Isolde facility (CERN), whereas the experiment with the stable and weakly bound ^{9}Be beam was performed at LNS Catania. The analysis of the elastic scattering angular distributions has shown a large difference in the total reaction cross-sections for ^{10,11}Be. Information on the fusion cross sections for the systems ^{9,10}Be+^{64}Zn has been extracted by using an activation technique as in [2] and first results will be shown.

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