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Transfer reactions to populate the PDR in 96Mo

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The pygmy dipole resonance (PDR) is a cluster of 1- states around and below the neutron separation energy and has gained traction in nuclear structure studies. The microscopic nature of the PDR is still an open question in particular, whether these 1- states could be defined as collective or being dominated by specific single-particle configurations. The study here presented is one of the first attempts to investigate the question of collectivity by exploiting the sensitivity of one-particle transfer reactions to excite single-particle states. The measurements of transfer reactions (p,d) and (d,p) were performed on two different targets to populate the ^{96}Mo residual nucleus. The ejectiles were detected, identified and momentum-analyzed by the MAGNEX spectrometer and its focal-plane detector which is installed at the Laboratori Nazionali del Sud of Instituto di Fisica Nucleare (INFN-LNS) in Catania, Italy. In this talk, the data reduction process of the (p,d) reaction will be presented together with some preliminary results.
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