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Direct Reactions with Exotic Nuclei

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Direct reactions such as nucleon transfer and fast nucleon removal are specific ways to probe the nuclear shell structure. These reactions, first used in stable nuclei studies, have largely contributed for the last 20 years to the investigation of the properties of exotic nuclei.
The application of direct reactions to single-particle spectroscopy and two-body correlations will be presented through recent experimental results. Specificities of direct reactions applied to exotic nuclei– including very weakly bound systems– will be detailed. Limits of the applicability of reaction models to unstable nuclei will be discussed. Finally, future and innovative technical developments dedicated to low-intensity beam studies will be detailed by emphasizing their advantages to existing techniques.