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The continuum-discretized coupled-channels method applied to exotic nuclei

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Accurate nuclear reaction rates are needed for primordial nucleosynthesis and hydrostatic burning in stars. The relevant reactions are extremely difficult to measure directly in the laboratory at the small astrophysical energies. In recent years direct reactions have been developed and applied to extract low-energy astrophysical S-factors. These methods require a combination of new experimental techniques and theoretical efforts, which are the subject of this presentation. In this talk I will discuss the role of continuum states and their mutual coupling in extracting the nuclear astrophysical information from experimental data carried out at radioactive beam facilities.