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The CASPAR Underground Nuclear Astrophysics Facility, New Results

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Extending the limits of cross-section measurements to lower energies is a constant drive for Nuclear Astrophysics. Many unique approaches have been developed to overcome or navigate around the exponentially decreasing reaction probability at low energy extremes. As current laboratory experiments fight to approach this stellar burning window, the rapid reaction decrease drives the need for higher intensity accelerators, more robust and isotopically enriched target material and lower background interference. The natural background suppression of underground accelerator facilities enables the extension of current experimental data to the lower energies needed. One approach is CASPAR, the first underground Nuclear Astrophysics laboratory in the United States and is currently on-line. First measurements have begun with a start to the scientific program in the US.

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