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### Recent results from LUNA

*Tuesday, 6 September 2022 09:00 (30 minutes)*

The cross sections of nuclear reactions relevant for astrophysics are crucial ingredients to understand the energy generation inside stars and the synthesis of the elements. In stars, nuclear reactions take place at energies well below the Coulomb barrier. As a result, their cross sections are often too small to be measured in laboratories on the Earth's surface, where the signal would be overwhelmed by the cosmic-ray induced background.

An effective way to suppress the cosmic-ray induced background is to perform experiments in underground laboratories. LUNA (Laboratory for Underground Nuclear Astrophysics), located at Gran Sasso National Laboratories (Italy), has paved the way for underground nuclear astrophysics.

Over the years, the LUNA collaboration has studied many crucial reactions involved in stellar evolution and Big Bang Nucleosynthesis. The presentation will provide an update on the latest results and future perspectives of the LUNA experiment.

#### Field of work

Nuclear structure and reactions: experiments and theory

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