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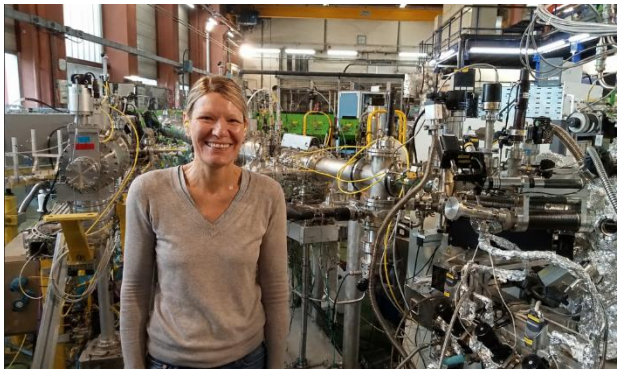
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Chemical Evolution of Nitrogen-Rich Astrophysical Ices under Cosmic-Ray Irradiation

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Cosmic rays are key drivers of the chemical evolution of icy bodies in the Solar System and dense interstellar environments. Laboratory simulations using swift heavy ions provide valuable insights into molecular destruction, reaction pathways, and the synthesis of increasingly complex species under astrophysical conditions. This seminar will present recent experiments performed at the GANIL facility on nitrogen-rich astrophysical ice analogues irradiated at cryogenic temperatures. This seminar emphasizes the chemical evolution of nitrogenated and multicomponent ice mixtures containing carbon, hydrogen, nitrogen, and oxygen. The results demonstrate how energetic processing promotes molecular fragmentation followed by radical recombination, leading to the formation of an extensive inventory of increasingly complex organic molecules, including nitriles, isonitriles, hydrocarbons, and oxygen-bearing species of astrochemical interest.



https://www.ganil-spiral2.eu/event/chemical-evolution-of-nitrogen-rich-astrophysical-ices-under-cosmic-ray-irradiation/

Séminaire

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