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Cosmic-Ray Lithium Production at a Type Ia Supernova Following a Nova Eruption

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Recent direct measurements of cosmic-ray (CR) light nuclei (protons, helium, and lithium) by AMS-02 have shown that the flux of each element has an unexpected hard component above ~ 300 GeV, and that the spectral indices of those components are almost the same. This implies that there are some primary sources that produce CR lithium nuclei, which have been believed to be produced via spallation of heavier nuclei in the ISM (secondary origin). We propose the nearby Type Ia supernova following a nova eruption from a white dwarf as the origin of CR Li.

Primary author: Dr KAWANAKA, Norita (Kyoto University)

Co-author: Prof. YANAGITA, Shohei (Ibaraki University)

Presenter: Dr KAWANAKA, Norita (Kyoto University)

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