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Press Release

Study of an unusual Supernovae SN2023ixf with aspherical ejecta by ICSP Processional 0.61m Optical Telescope at Sitapur, W. Medinipur

Dated: 25/7/2025

Indian Centre for Space Physics (ICSP) has created the first Professional quality Optical Observatory in the North-East India with the help of Department of Higher Education, Government of West Bengal. Its 0.61m diameter "Vashista" telescope is an excellent tool to study the optical sky.

In a large International collaboration, consisting of countries like Japan, Sweden, Australia, UK, USA, China, ICSP scientists studied how the light from a supernovae, named SN2023ixf slowly faded away since its birth. What we discovered is that the interstellar media around it is highly asymmetrical and produced three shock waves. The picture which emerged is that the Supernovae explosion produced non-spherical shock front. The collaboration clearly points to the fact that the star which exploded has a mass 10 times the mass of the Sun and emitted 2×10^{51} ergs of energy.

The deeming of the Supernovae is shown in the attached picture taken from our published paper. ICSP data along with other observatory data is shown.

References:

The Astrophysical Journal, 975:132 (24pp), 2024 November 1 https://doi.org/10.3847/1538-4357/ad7955

Title of the Paper: Unraveling the Asphericities in the Explosion and Multifaceted Circumstellar Matter of SN 2023ixf

Astrophysical Journal, vol 975:132, 2024, Nov 1
https://doi.org/10.3847/1538-4357/ad7955

ICSP is pleased to announce that since its publication a few months ago this article has created storms and 37 papers papers have been written by International scientists directly citing our paper, further testimony to the quality of data and the papers produced by the ICSP Observatory at Sitapur, West Medinipur.

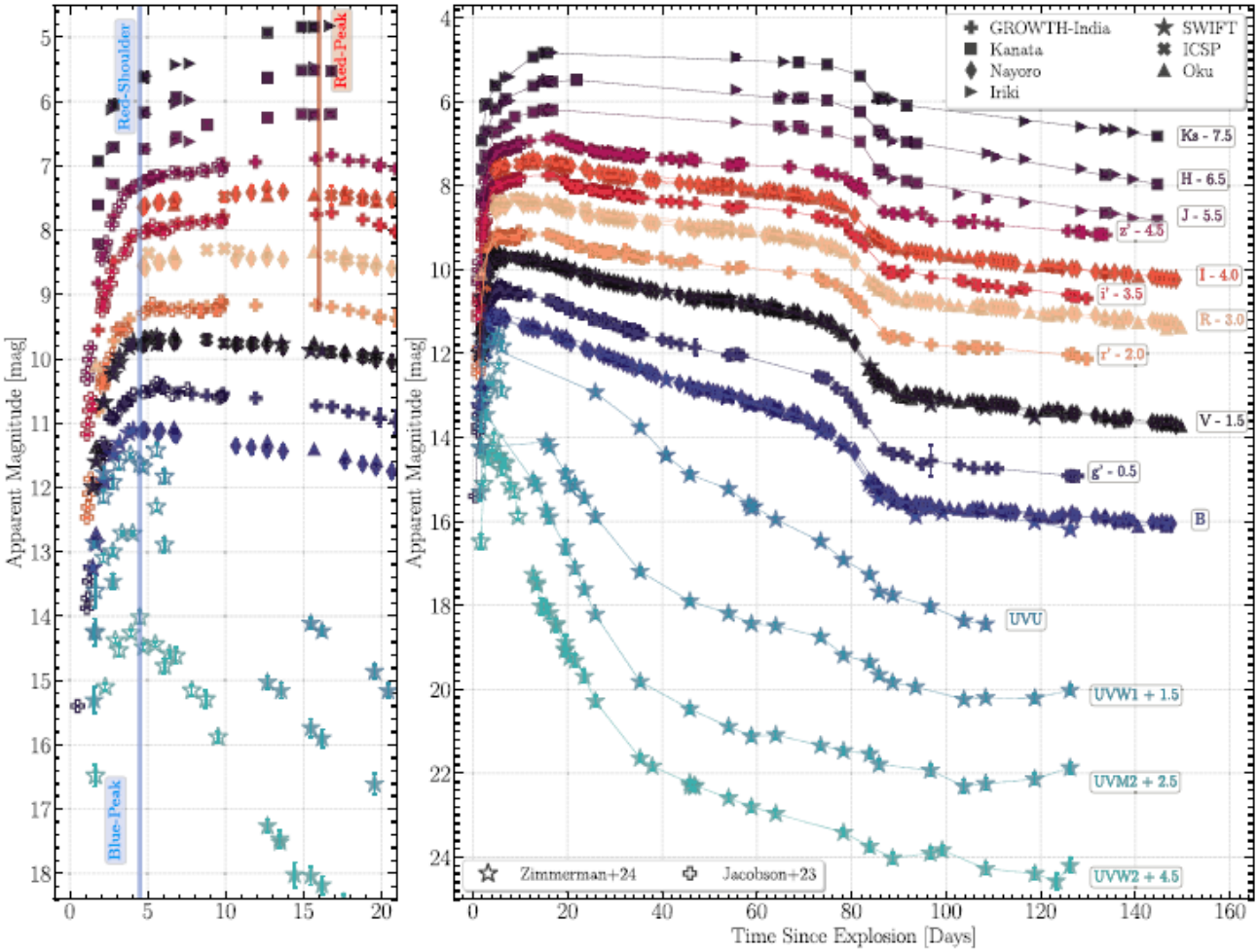

Figure showing how the Supernovae became fainter with time. ICSP data is indicated by cross (X) signs.

The citations may be seen at the following link

Citations: https://ui.adsabs.harvard.edu/abs/2024ApJ...975..132S/citations

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(On Behalf of ICSP Optical team members)