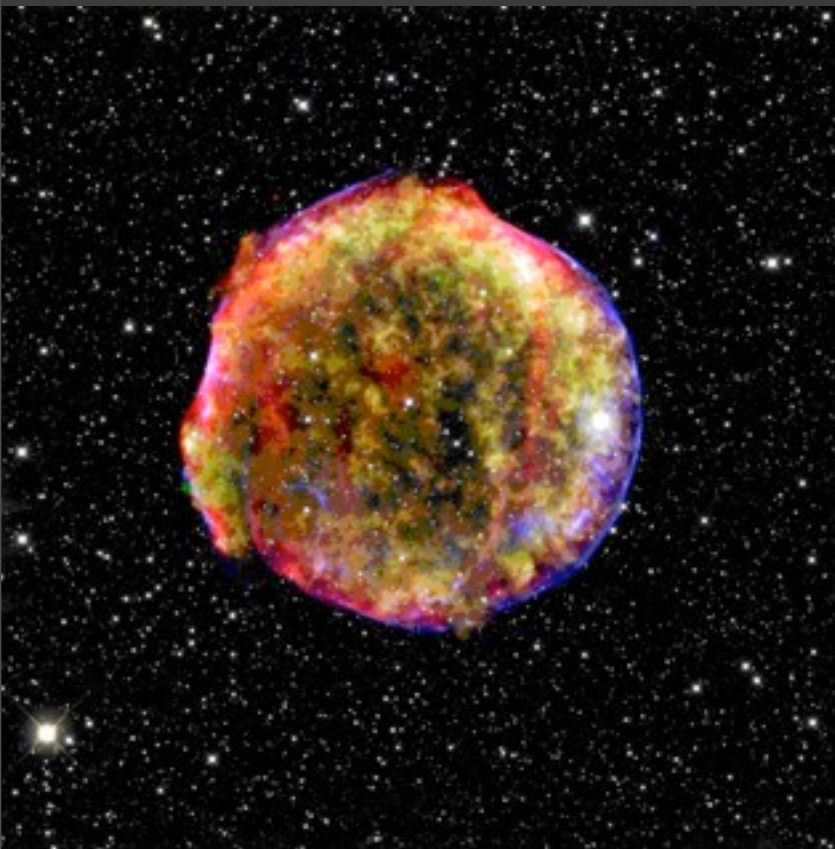


# Tycho Brahe's 1572 supernova as a standard type Ia as revealed by its light-echo spectrum



Krause et al.  
*Nature* **456**, 617-619 (4 December 2008)

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# Classification

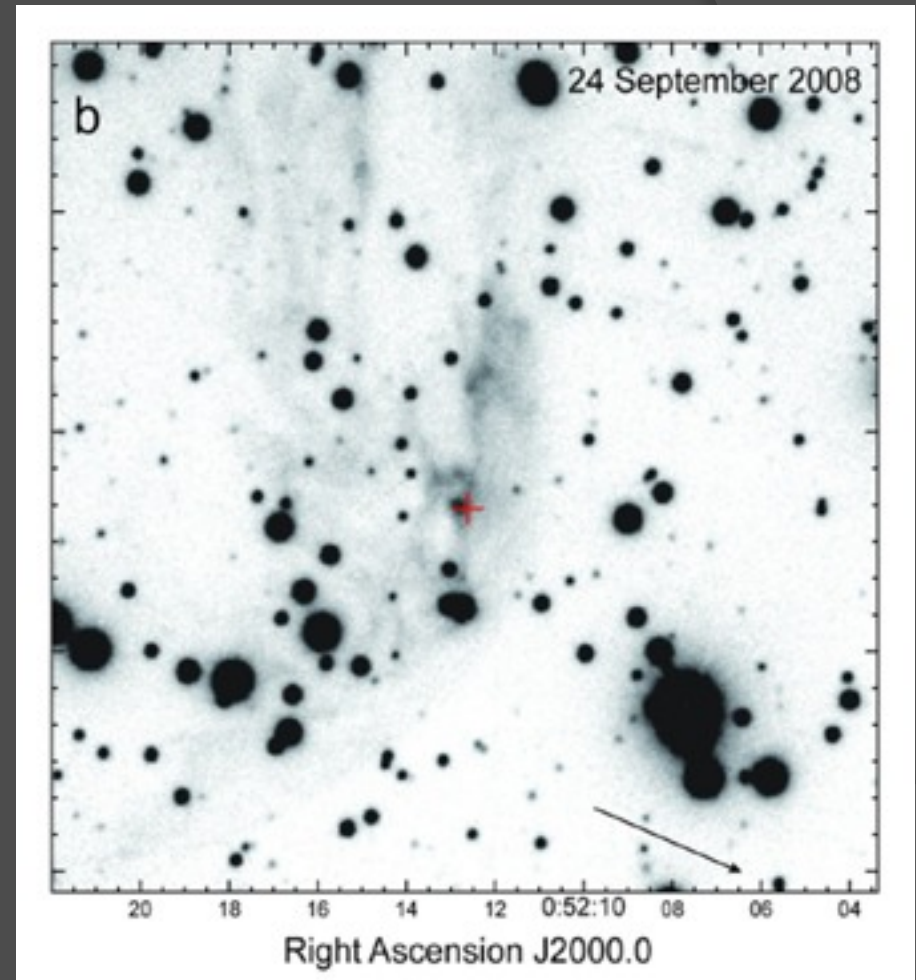
- ⦿ The classification of supernovae is based on the absorption lines of different chemical elements that appear in their spectra.
- ⦿ Previous studies of the remnant had suggested that SN1572 was a type-Ia supernova. However, it had also been suggested that the event could instead have been either a type Ib, Ic or II

# Echoes

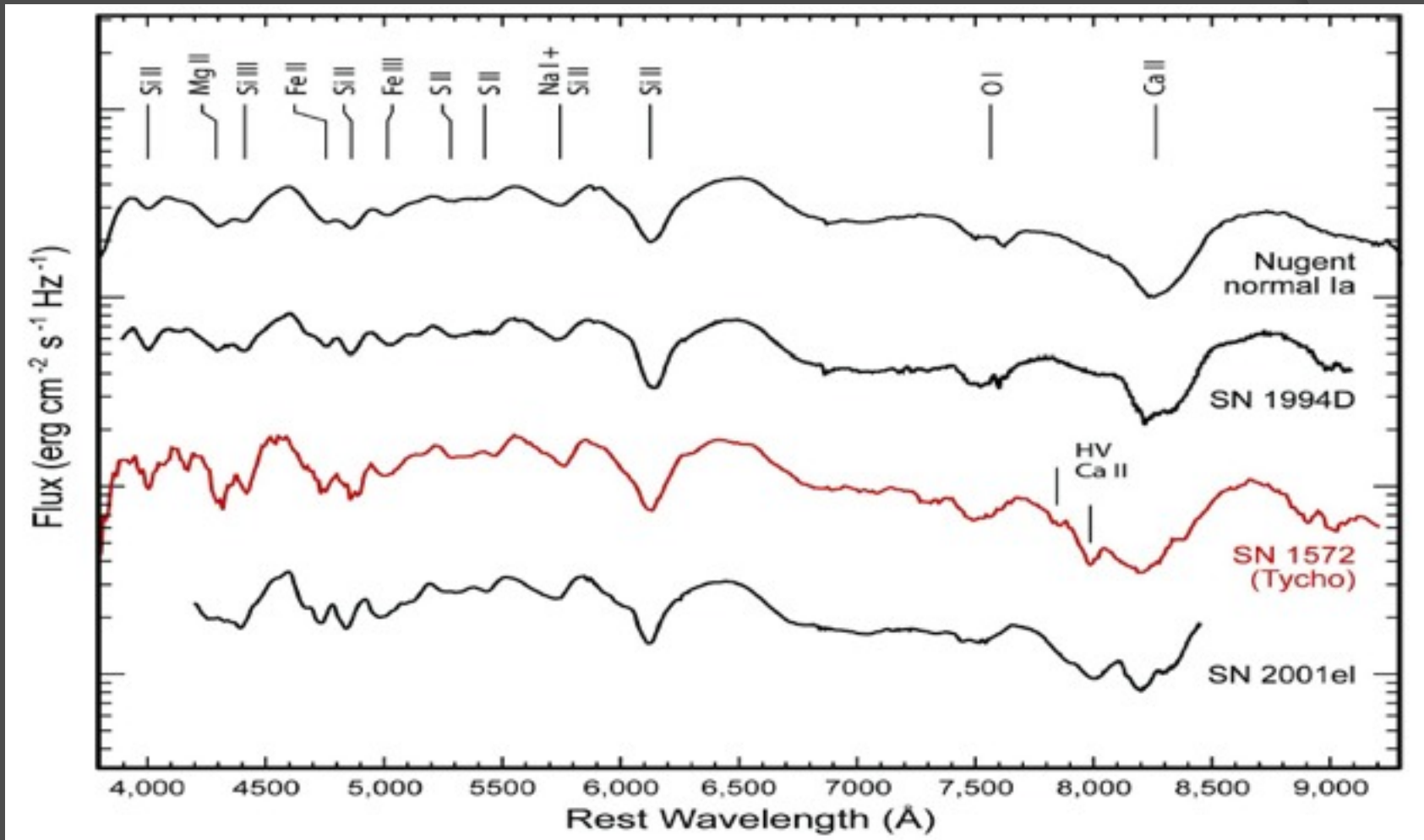
provide information on the explosion itself

- ⦿ Krause and colleagues have studied light from SN1572 that has been scattered by a nearby dust cloud. This has been made possible because the cloud, of a suitably high density, is located several hundred light years from the site of the supernova, thereby allowing observation of this light “echo” on the Earth today.

- Using the 8.2 m Subaru telescope, Krause's team found a patch of brightness in the night sky close to the supernova remnant that was moving away from the remnant. This, they say, is the echo formed as the flash of light produced by the explosion moves through the cloud.



# Light-echo spectrum



⦿ With silicon but no hydrogen → type Ia

# Thank you

