

# JWST and Hubble on the hunt for the supernova

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Gamma-ray burst jet

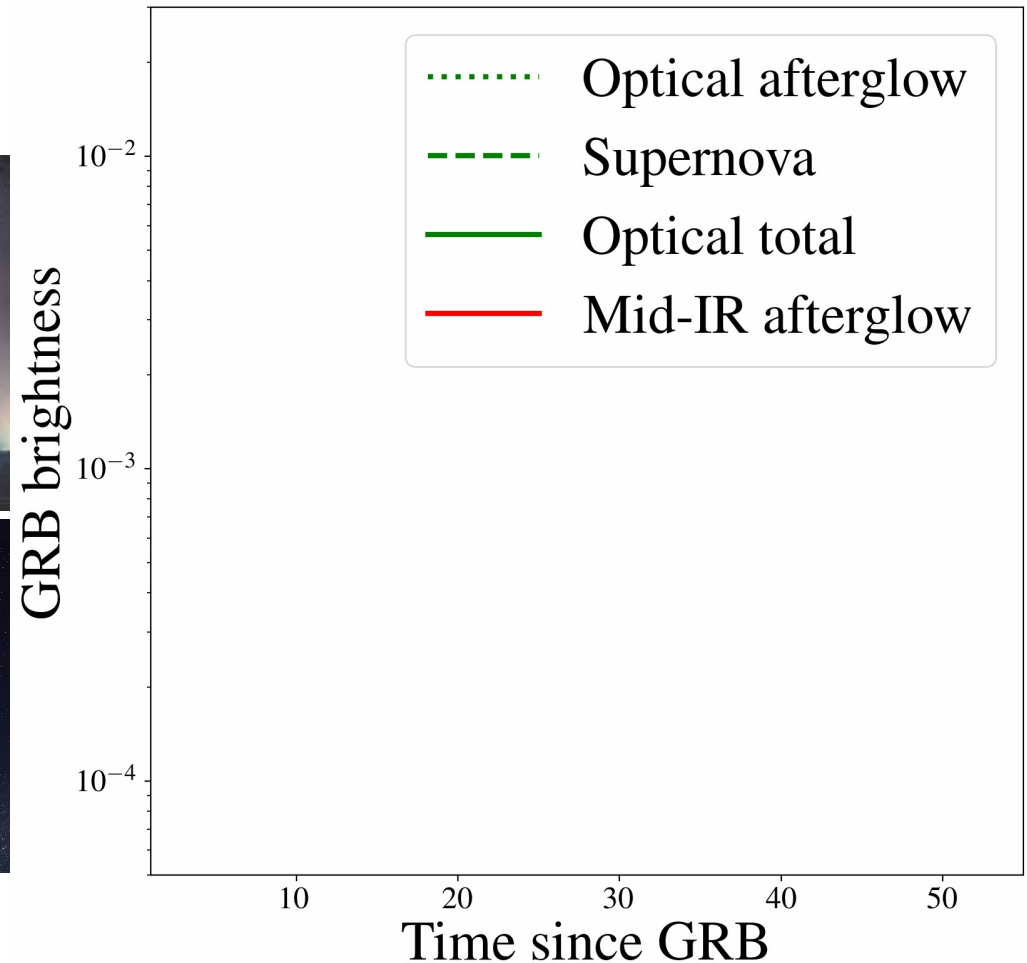
Supernova

What kind of supernova does a burst like this produce?

# A major campaign in the optical and infrared

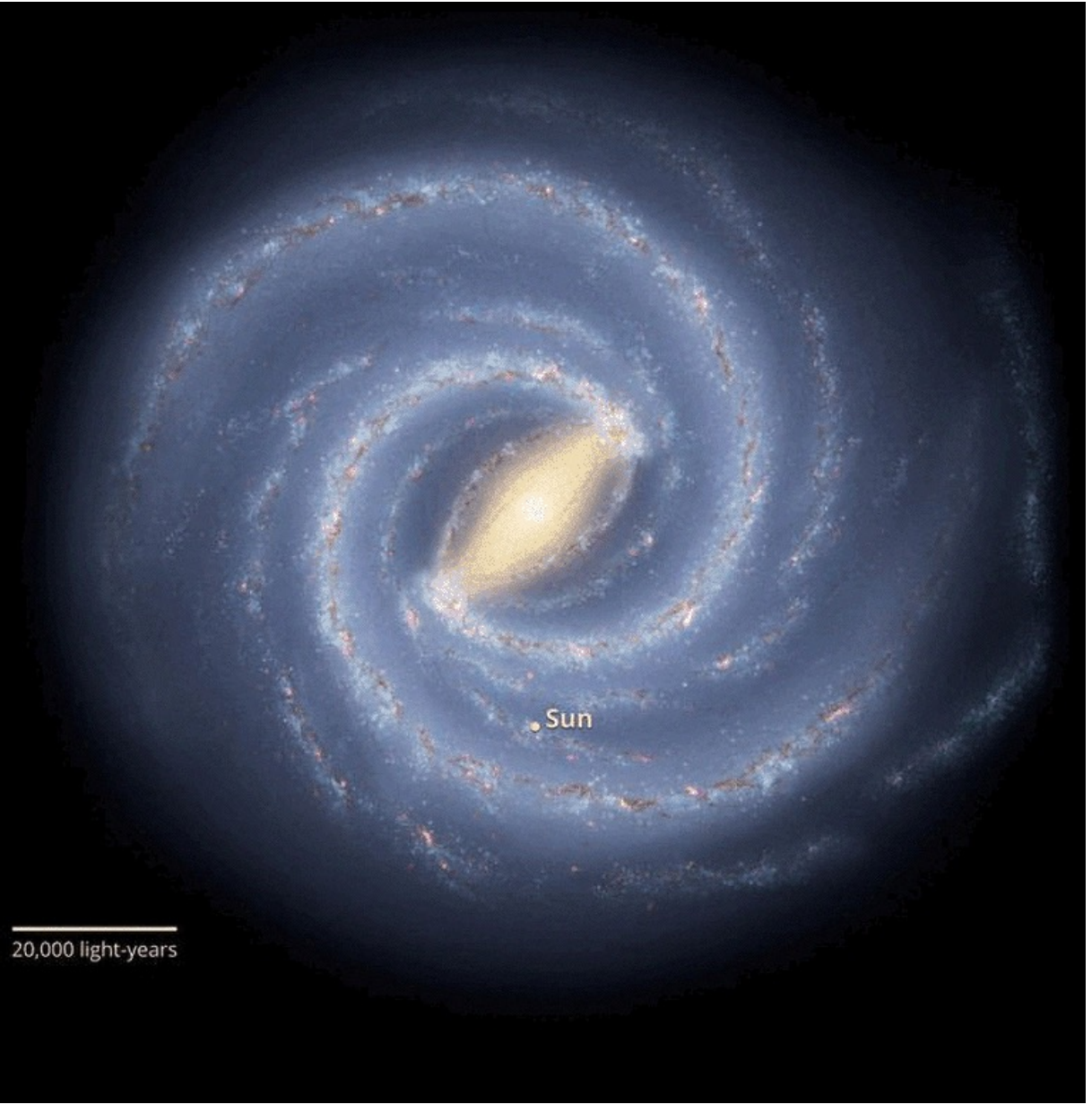


# A major campaign in the optical and infrared





View from Earth



20,000 light-years

1% of the light (optical, 0.5 microns)

10% of the light (near-infrared, 2 microns)



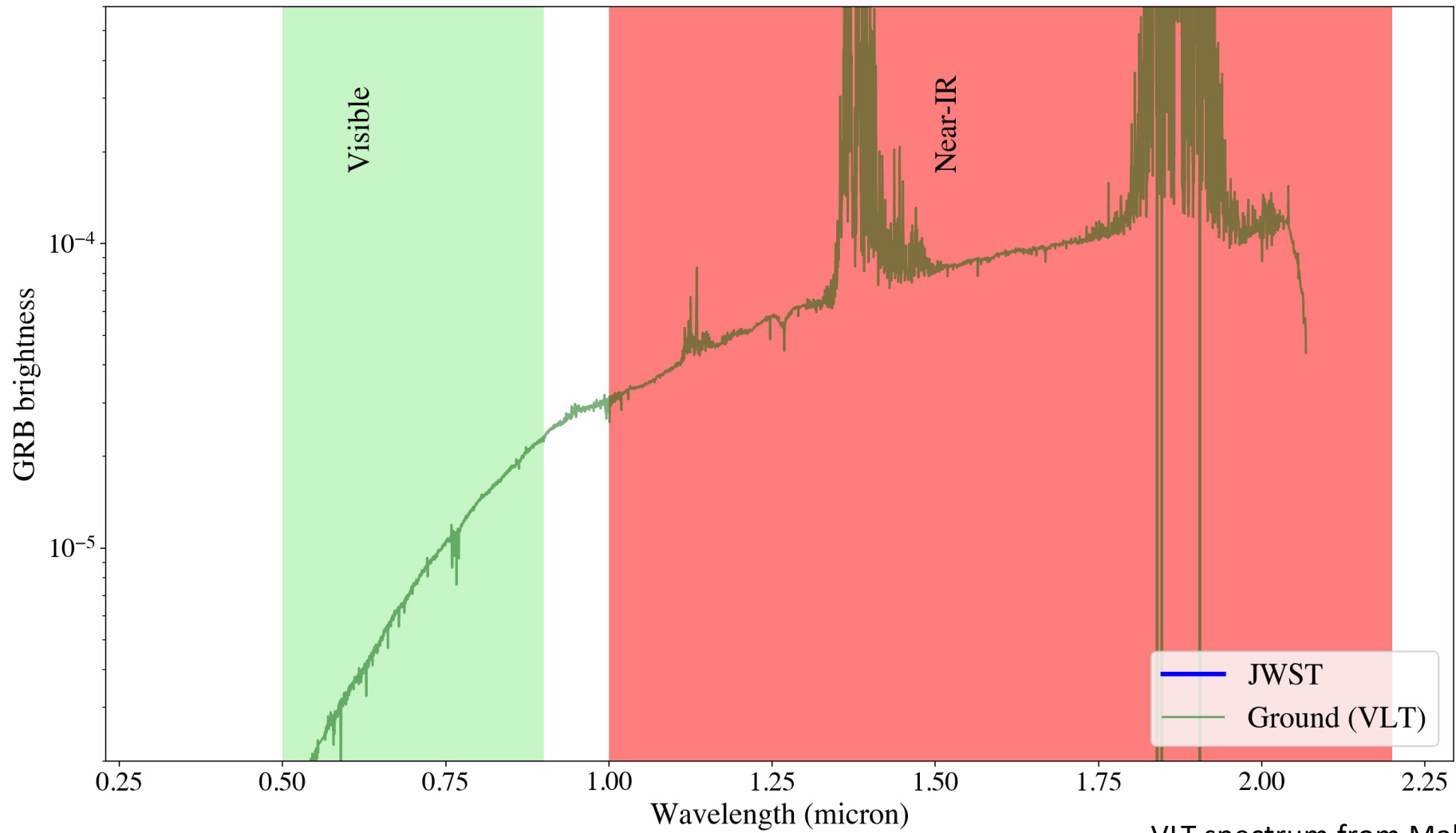
90% of the light (mid-infrared, 8 microns)



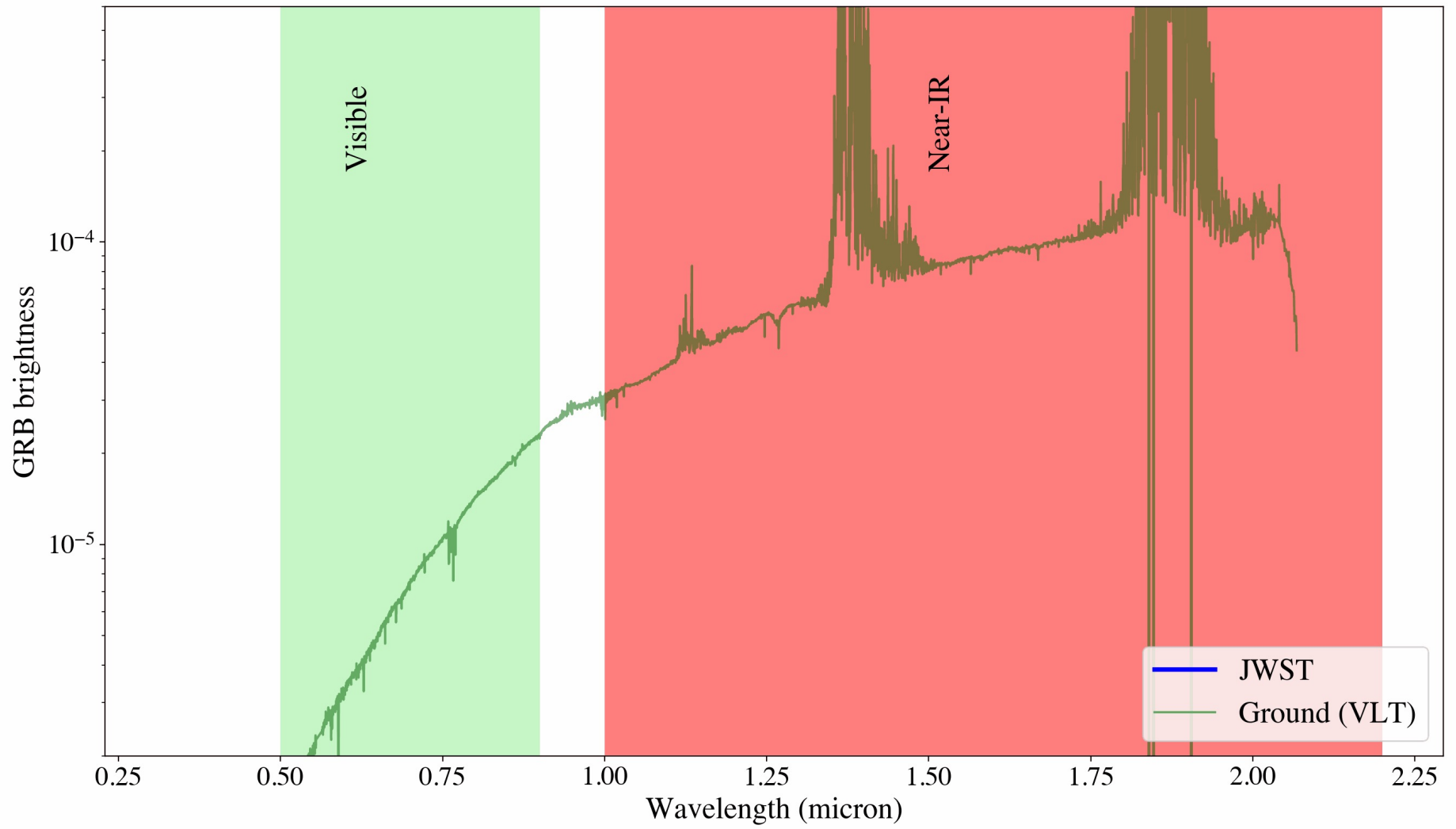


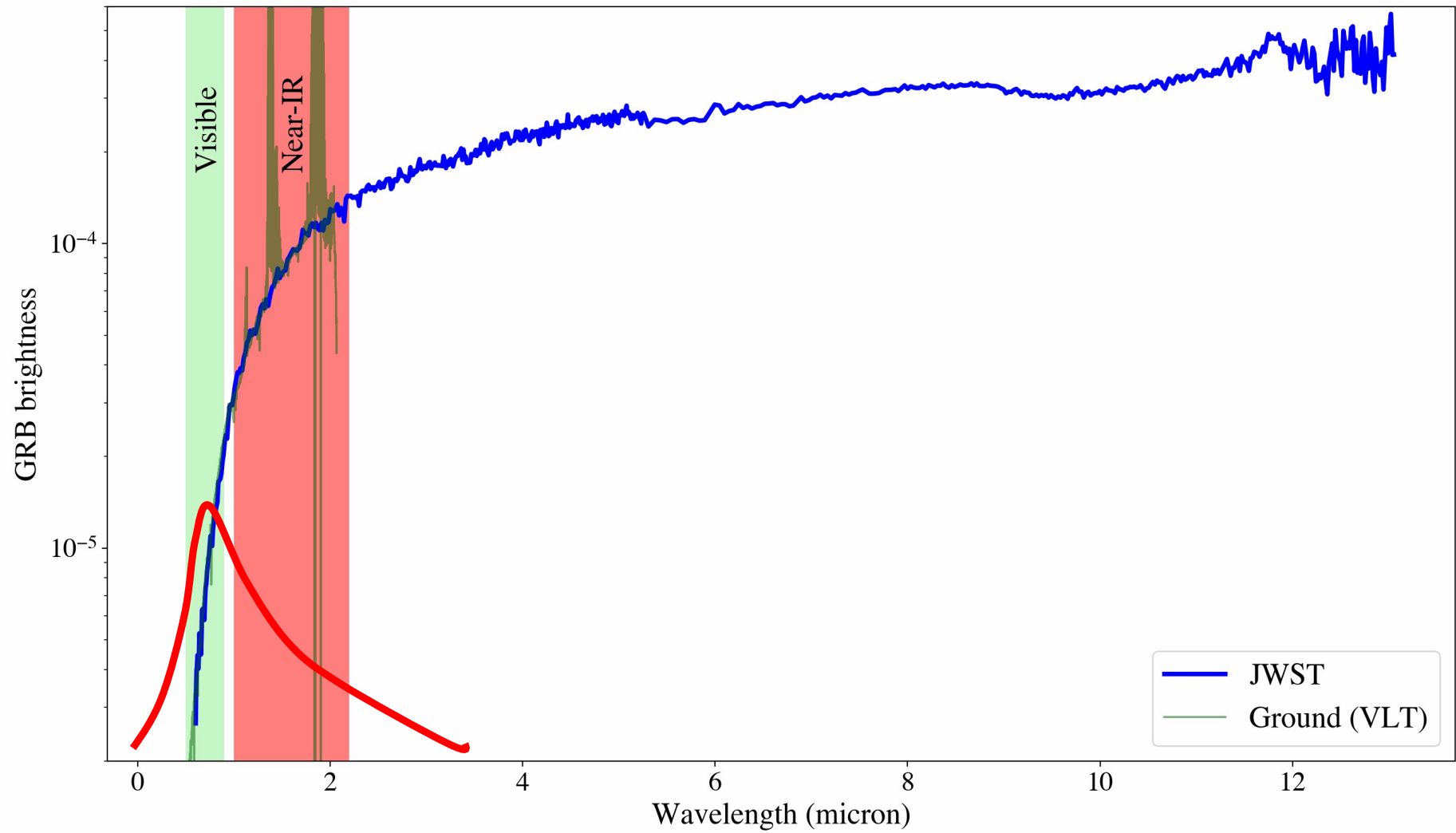


**Hubble Space Telescope**  
(8 Nov to 4 Dec 2022)



VLT spectrum from Malesani et al.







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## **Where is the supernova?**

Hiding in the glare of the gamma-ray burst and behind the Milky Way dust?

Not there because the newly formed black hole swallowed the supernova material

Not there because GRB 221009A was not formed from the collapse of a massive star?