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# SN 2020jgb

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ABSTRACT

*Keywords:* keywords

## 1. INTRODUCTION

## 2. OBSERVATIONS

### 2.1. *Detection and Classification*

SN 2020jgb was first discovered by the Zwicky Transient Facility (ZTF; Bellm et al. 2019; Graham et al. 2019) on 2020 May 03.463 UT (MJD 58972.463) with the 48-inch Samuel Oschin Telescope (P48) at Palomar Observatory. The internal designation is ZTF20aayhacx. It was detected at a magnitude of 19.86 in ZTF $g$-band, and J2000 coordinates $\alpha = 17^{\rm h}53^{\rm m}12^{\rm s}.651$, $\delta = -00°51'21''.81$. The last non-detection was on 2020 April 27.477 (MJD 58966.477; 5.99 days before the first detection) up to a limiting magnitude of 20.7 in ZTF $r$-band.

**Classification, ...**

### 2.2. *Optical Photometry*

We obtained $gr$-band photometry of SN 2020jgb with the ZTF camera. A Galactic extinction of $E(B-V) = 0.404$ is reported by the maps of (Schlafly & Finkbeiner 2011), for which we correct all our photometry. We do not account for any additional host extinction due to the lack of any Na I D absorption in our spectra (**Is it in the outskirt?**).

### 2.3. *Optical Spectroscopy*

### 2.4. *Near-infrared (NIR) Spectroscopy*

We obtained one NIR spectrum of the transient using the Gemini near-infrared spectrometer (GNIRS; Elias et al. 1998) on the Gemini North telescope on 2020 June 9 (≈22 days after $r$-band peak), for an integration time of 2400 s. The spectra were reduced with the `PypeIt` Python package (Prochaska et al. 2020; Prochaska et al. 2020).

## 3. ANALYSIS

### 3.1. *Photometric Properties*

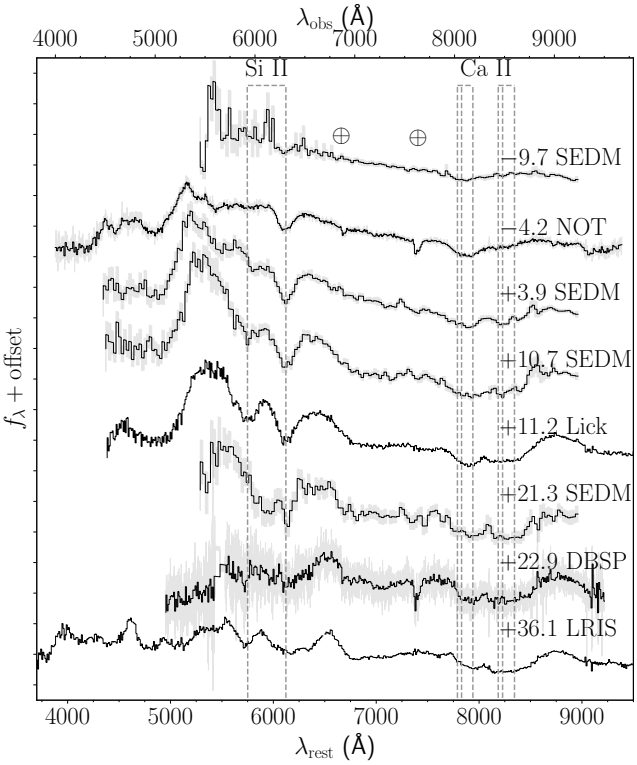


**Figure 1.** Optical spectroscopic sequence of SN 2020jgb.

- sub-luminous
- first light time, peak time
- color evolution

### 3.2. *Spectroscopic Properties*

- infrared Ca II triplet (Ca II IRT)
- tentative He I absorption at ≈9950 Å

### 3.3. *Optical Spectroscopy*

## 4. HOST GALAXY

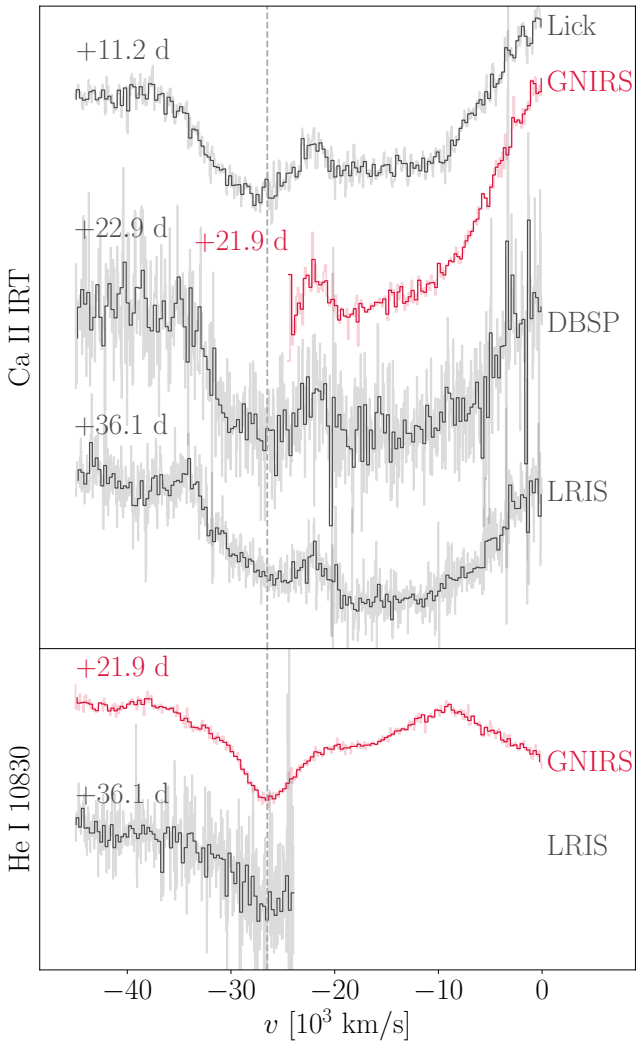


**Figure 2.** Line velocity comparison between the high-velocity component of Ca II IRT and the infrared absorption feature at ≈9950 Å assuming it is associated with He I at 10830 Å.



## REFERENCES

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