



Publication Year	2021
Acceptance in OA	2022-06-07T12:31:20Z
Title	The flaring blazar BL Lacertae observed below $R=11.5$, a new record for its optical brightness
Authors	Marchini, Alessandro, Aceti, Pietro, Banfi, Massimo, Mortari, Fabio, Papini, Riccardo, Salvaggio, Fabio, Marino, Giuseppe, ARENA, CLAUDIO, FRASCA, Antonio, Conti, Massimo, Leonini, Simone, Rosi, Paolo, Ramirez, Luz Marina Tinjaca, BONNOLI, Giacomo
Handle	http://hdl.handle.net/20.500.12386/32204
Journal	The Astronomer's Telegram
Volume	14328

GCN
IAUCs
ATel on Twitter

Patreon



Post | Search | Policies
Credential | Feeds | Email

13 Apr 2022; 14:49 UT

This space for free for your conference.



Thanks to Patrons, The Astronomer's Telegram is free to read, free to publish and always will be. Thank you.

[[Previous](#) | [Next](#) | [ADS](#)]

The flaring blazar BL Lacertae observed below R=11.5, a new record for its optical brightness

ATel #14328; *Alessandro Marchini (Astronomical Observatory, Department of Physical Sciences, Earth and Environment (DSFTA), University of Siena - Italy), Pietro Aceti, Massimo Banfi (Osservatorio Astronomico Città di Seveso, Seveso - Italy), Fabio Mortari (Hypatia Observatory, Rimini - Italy), Riccardo Papini, Fabio Salvaggio (Wild Boar Remote Observatory, Florence - Italy), Giuseppe Marino (Gruppo Astrofili Catanesi Observatory, Catania - Italy), Claudio Arena (ObsCT Private Observatory, Catania - Italy), Antonio Frasca (INAF - Osservatorio Astrofisico di Catania), Massimo Conti, Simone Leonini, Paolo Rosi, Luz Marina Tinjaca Ramirez (Montarrenti Observatory, Siena - Italy), Giacomo Bonnoli (IAA-CSIC, Granada - Spain)*

on 18 Jan 2021; 18:08 UT

Credential Certification: Giacomo Bonnoli (giacomo.bonnoli@unisi.it)

Subjects: Radio, Infra-Red, Optical, Ultra-Violet, X-ray, Gamma Ray, >GeV, TeV, VHE, Request for Observations, AGN, Blazar, Transient

Referred to by ATel #: [14329](#), [14334](#), [14342](#), [14343](#), [14350](#), [14356](#), [14548](#), [14751](#)

[Tweet](#)

We report that the optical brightness of the flaring blazar BL Lacertae (RA: 22 02 43.29 Dec: +42 16 39.98 J2000.0) reached levels that are unprecedented for this source to the best of our knowledge, with observed magnitudes below R=11.5. We are monitoring this source intensively, in the framework of a follow-up campaign on this flaring blazar coordinated by the WEBT Collaboration and better detailed in our recent ATel #[14318](#). Our last measurements in the Johnson-Cousins R filter are reported in the following table:

Civil Date(UT)	Mag (dMag)	Observatory	Notes
2021 Jan. 17.84	R= 12.47 (0.01)	Siena	- Average of 16 frames
2021 Jan. 17.87	R= 12.45 (0.02)	Seveso	- Single frame

These measurements were obtained using the photometric sequence made available by the WEBT Collaboration (<http://www.oato.inaf.it/blazars/webt/gasp/fc/2200fc.html>). Reported uncertainty is statistical only.

This magnitude is significantly below the previous record in the R band for the blazar BL Lacertae, to the best of our knowledge represented by the magnitude R=11.73(0.01) reported in ATel #[14081](#) and observed on 2020 Oct. 05.45.

Any enquiry on these observations can be addressed either to Alessandro Marchini (marchini@unisi.it) or to Giacomo Bonnoli (bonnoli@iaa.es). We will continue monitoring the source in the following nights. Multi-wavelength follow-up is encouraged.

We acknowledge excellent scientific cooperation with, and valuable support from, the WEBT Collaboration, the BOOTES Network Collaboration, the Tuorla Observatory and the MAGIC Collaboration. Co-author Giacomo Bonnoli acknowledges financial support to the Spanish "Ministerio de Ciencia e Innovación" (MICINN) through grant PID2019-107847RB-C44 and Unit of Excellence Severo Ochoa award to the Instituto de Astrofísica de Andalucía - CSIC (SEV-2017-0709).

A brief description of the instrumental setup used at the Astronomical Observatory of the

Related

- [14854](#) BL Lac still in optical high state
- [14839](#) AGILE detection of enhanced gamma-ray activity from the blazar BL Lac
- [14826](#) Detection of flaring very-high-energy gamma-ray emission from BL Lacertae with the MAGIC telescopes
- [14820](#) BL Lac reaches a new optical all-time maximum
- [14783](#) Detection of very-high-energy gamma-ray emission from BL Lac with the LST-1
- [14782](#) AGILE confirmation of the gamma-ray flaring activity from the blazar BL Lac
- [14777](#) Fermi-LAT detection of continued enhanced gamma-ray activity from BL Lac
- [14774](#) Swift XRT/UVOT follow-up of the recent optical activity of blazar BL Lacertae
- [14773](#) Continued Optical Activity in the Blazar BL Lacertae
- [14751](#) BL Lac again in optical high state
- [14583](#) Fermi-LAT detection of enhanced gamma-ray activity from BL Lac
- [14548](#) Strong increase of the optical brightness of BL Lac observed at the Hans-Haffner-Sternwarte
- [14467](#) New peak of brightness of BL Lacertae
- [14356](#) The optical and near-infrared follow-up observations of flaring blazar BL Lacertae using Kanata Telescope
- [14350](#) Swift follow-up observations of BL Lacertae during a new flaring activity
- [14343](#) Optical follow-up observations of the flaring blazar BL Lacertae
- [14342](#) NICER follow-up observations of the flaring blazar BL Lacertae
- [14334](#) Multicolor-optical observation of the flaring blazar BL Lacertae
- [14330](#) Fermi-LAT gamma-ray flare in BL Lacertae contemporaneous with optical flaring activity
- [14329](#) Erratum to ATel #14328
- [14328](#) The flaring blazar BL Lacertae observed below R=11.5, a new record for its optical brightness
- [14318](#) The optical state of the flaring blazar BL Lacertae approaches again the historical brightness of the 2020 outburst
- [14096](#) NuSTAR and NICER follow-up observations of the flaring blazar BL Lacertae
- [14081](#) Kanata optical and near-infrared observations of BL Lacertae in the bright state
- [14072](#) Fermi-LAT detection of record gamma-ray flare in BL Lacertae contemporaneous with record X-ray flare
- [14069](#) Swift detection of record X-ray flare of BL Lacertae
- [14065](#) Swift follow-up of BL Lacertae during a bright state
- [14032](#) Detection of a bright very-high-energy gamma-ray flare from BL Lac with the MAGIC telescopes
- [13964](#) Fermi-LAT detection of record gamma-ray flare in BL Lacertae contemporaneous with record optical flaring
- [13963](#) MAGIC detection of very-high-energy gamma-ray flaring activity from BL Lacertae during the current historical optical and high-energy gamma-ray flare

University of Siena for the reported observation is available at the official webpage of the observatory (see link below). The instrumentation in Seveso consists of a 0.3 m, f/6.5 telescope equipped with a ST8 XME NABG SBig CCD.

Astronomical Observatory of the University of Siena - Official Webpage

- 13958 Decadal optical outbreak of BL Lac as observed at the Hans-Haffner-Sternwarte
- 13956 ATOM observations of continuing record flares of BL Lac objects BL Lacertae and PKS 0447-439
- 13933 Fermi-LAT detection of a gamma-ray flare of the blazar BL Lacertae coincident with an optical flare
- 13930 The blazar BL Lac reaches historical maximum
- 13906 ATOM observations of flares in gamma-blazars PKS 0447-439 and PKS 1406-076
- 12724 MAGIC detection of an increased activity from BL Lacertae at very-high-energy gamma rays
- 12718 Fermi-LAT detection of increasing gamma-ray activity of the blazar BL Lacertae
- 5597 Historical optical maximum of BL Lacertae
- 4271 Optical and radio brightening of BL Lacertae
- 3371 Fast optical brightening of BL Lacertae

[**Telegram Index**]

R. E. Rutledge, Editor-in-Chief
Derek Fox, Editor

rrutledge@astronomerstelegam.org
dfox@astronomerstelegam.org