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JVLA C-band observation on AT2019wey

ATel #13984; ***Hongmin Cao (Shangqiu Normal University, Shangqiu, China) Sandor Frey (Konkoly Observatory, Budapest, Hungary) Krisztina Gabanyi (MTA-ELTE Extragalactic Astrophysics Research Group, Budapest, Hungary) Marcello Giroletti (Istituto Nazionale di Astrofisica, Italy) Lang Cui (Xinjiang Astronomical Observatory, CAS, China) Jun Yang (Chalmers University of Technology, Sweden) Xiaoyu Hong (Shanghai Astronomical Observatory, CAS, China) Tao An (Shanghai Astronomical Observatory, CAS, China)***
*on **31 Aug 2020; 16:05 UT***
Credential Certification: Marcello Giroletti (giroletti@ira.inaf.it)

Subjects: Radio, AGN, Binary, Blazar, Transient

Referred to by ATel #: 14000, 14003

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On Dec. 07, 2019, an optical transient AT2019wey was discovered by the ATLAS group. Based on the optical and X-ray properties, this transient was suggested as a BL Lac in active state (ATel #13571, #13576). Considering there is no radio counterpart in the NVSS and the VLASS, we carried out an 1-h JVLA DDT observation (Project code: 20A-479) on May 27, 2020, at C band spanning from 4 to 8 GHz and in C configuration, in order to search for its radio counterpart. An unresolved source is significantly detected at the optical position of this transient, and the flux densities at 5, 6 and 7 GHz are 197

14003 H s 2
14000 C o
13984 J o A
13976 A o
13957 N r i
13949 C 1 n
13948 N o i f 2
13932 X A
13921 V A
13576 C o X A S J S J

+/-20 uJy, 220 +/-22 uJy and 234 +/-23 uJy, respectively. These values are consistent within errors, suggesting a flat radio spectrum. The flux densities at 3 (227 +/-24 uJy) and 10 GHz (86 +/-12 uJy), measured on Aug. 02, 2020, indicate however a steep spectrum (ATel #13921). In the X-ray binary scenario newly proposed by Yao et al. (ATel #13932), the change of the radio spectrum may be associated with an evolution in the compactness of the jet.

Currently, the optical (http://gsaweb.ast.cam.ac.uk/alerts/alert/Gaia20aua) and the X-ray flux densities (ATel #13948) appear going higher, and the multi-band observations on this source are encouraged. We have applied for an European VLBI Network short observation on this source, which will be carried out in the coming weeks. We thank the NRAO for accepting our DDT proposal and quickly scheduling the experiment.

AT 2019wey | Transient Name Server

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R. E. Rutledge, Editor-in-Chief rrutledge@astronomerst
Derek Fox, Editor dfox@astronomerst
Mansi M. Kasliwal, Co-Editor mansi@astronomerst