


AR Scorpii: a New White Dwarf in the Ejector State ()

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Marsh et al. (2016) have recently reported the discovery of a radio-pulsing white dwarf in the cataclysmic variable AR Sco. The period of pulsations which are also seen in the optical and UV is about 117 seconds. High intensity of pulsing radiation and non-thermal character of its spectrum leave little room for doubt that the white dwarf in AR Sco operates as a spin-powered pulsar and, therefore, is in the ejector state. We show that this system is very much resembling a well-known object AE Aqr. In both systems the compact components are spin-powered and have relatively strong surface magnetic field of order of 100-500 MG. They originated due to accretion spin-up in the previous epoch during which the magnetic field of the white dwarf had substantially evolved being initially buried by the accreted matter and recovered to its initial value after the spin-up phase had ended.

Publication: Stars: From Collapse to Collapse
Pub Date: June 2017
arXiv: arXiv:1612.07831
(/link_gateway/2017ASPC..510..439B/arXiv:1612.07831) 
Bibcode: 2017ASPC..510..439B (</abs/2017ASPC..510..439B/abstract>)
Keywords: Astrophysics - High Energy Astrophysical Phenomena
E-Print: 4 pages, to appear in Proc. of the conference "Stars from collapse to collapse" (held in 2016 October 3-7, Nizhnij Arkhyz, Karachai-Cherkessian Republic, Special Astrophysical Observatory of the Russian Acad. of Sci.)