

Possible manifestations of compact stable dark matter objects in the solar system

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In order to find observable indications for Dark Matter (DM) some possible forms of DM from DM particles (WIMP) to DM planets in the solar system are considered. In particular, a compact DM planet on a specific orbit in the solar system is predicted to be a trigger for the solar dynamo with the 11-year cyclic activity of the Sun. Moreover, gravitational interaction of this compact DM planet with the Sun and other planets of the solar system (especially with Mercury, Venus, Earth, Mars, and Jupiter) leads to explanation of the Maunder minimum and other long-time variations of the solar cycle maxima. This so accurately defines trajectory of the compact DM planet as to open a possibility to observe this compact DM planet in future due to a specific lensing of the light from some stars at predicted moments of the time.

Information on the subject:

Y E Pokrovsky, Stable Compact Dark Matter Objects in Planetary Systems, Journal of Physics: Conference Series 1557 (2020) 012033

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