

Abstract Submitted
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Searching for axion stars with a global network of optical atomic magnetometers¹ C. A. PALM, A. PENAFLORE, A. GUEST, D. F. JACKSON KIMBALL, California State University - East Bay, GNOME COLLABORATION — The GNOME collaboration (the Global Network of Optical Magnetometers to search for Exotic physics) is using a worldwide network of optical atomic magnetometers to search for correlated transient signals heralding new physics [Pospelov et al., Phys. Rev. Lett. **110**, 021803 (2013)]. Potential search targets for the GNOME include compact dark-matter objects such as axion stars [Jackson Kimball et al., arxiv:1710.04323]. We discuss the particular implementation and characteristics of the Hayward GNOME magnetometer and analyze prospects for detecting a terrestrial encounter with an axion star by the GNOME.

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