

Abstract Submitted
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Search for Axion Stars Using the Global Network of Optical Magnetometers for Exotic Physics (GNOME)¹ PERRIN SEGURA, Oberlin College, MADELINE MONROY, TATUM WILSON, CHRISTOPHER A. PALM, California State University - East Bay, SUNYOOL PARK, Oberlin College, JASON MORA, ALEXANDER PENAFLO, California State University - East Bay, IBRAHIM SULAI, Bucknell University, DEREK JACKSON KIMBALL, California State University - East Bay, JASON STALNAKER, Oberlin College, GNOME COLLABORATION — Light scalar fields in the form of axion stars or Q-balls are a possible candidate for dark matter. The Global Network of Optical Magnetometers for Exotic physics (GNOME) is sensitive to such compact objects via a coupling of the fields to the atomic and nuclear spins. We present an analysis method for the GNOME data that is sensitive to axion stars and Q-balls based on the excess power technique. We present preliminary results and discuss the sensitivity of such a network to this form of dark matter.

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