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Subluminal Magnetic Monopole Search with NOvA MARTIN FRANK, Univ of South Alabama, NOVA COLLABORATION — The existence of the magnetic monopole has eluded physicists for centuries. The NOvA far detector (FD), used for neutrino oscillation searches, has the additional capability to search for magnetic monopoles at subluminal velocities. With a surface area of over 4,000 m^2 and a location near the earth's surface, the 14 kT FD provides us with the unique opportunity to be sensitive to potential low-mass monopoles that lack the penetrating power to reach underground experiments. We have designed a novel data-driven triggering scheme that continuously searches the FD's live data for monopole-like structures. At the offline level, the largest challenge in reconstructing monopoles is to reduce the 148,000 Hz speed-of-light cosmic ray background. In this talk, I will present the trigger algorithm that we employ and the offline reconstruction algorithm that will be used for the first NOvA monopole search.

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