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**Identification of clear atmospheric conditions in a search for exotic candidates at the Pierre Auger Observatory** DAVID STARBUCK, DAVID SCHUSTER, LAWRENCE WIENCKE, Colorado School of Mines, PIERRE AUGER COLLABORATION — Atmospheric data from the Pierre Auger Observatory's Central Laser Facility (CLF) and other sources were analyzed to identify clear, cloudless periods of extended duration. The purpose of this study is to assist an on-going search for exotic particle signatures. The search examines the longitudinal profiles of extensive air-showers recorded by the fluorescence detector. Anomalous longitudinal profiles of potential interest as exotic candidates are typically caused by cloudy or hazy atmospheric conditions. These potential signatures can be eliminated by restricting the search to periods of clear atmospheric conditions.

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