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Using laser shots to determine the speed resolution of air showers at the southern Pierre Auger observatory KATHLEEN GESTERLING, FRED SARAZIN, LAWRENCE WIENCKE, Colorado School of Mines — Laser shots from the Central Laser Facility (CLF) at the Southern Pierre Auger Observatory are used to simulate the signal received by the Fluorescence Detectors (FDs) from extensive air showers. Because the geometry of the CLF and the FDs is known, it is possible to fit the time profile recorded in the FDs using the "shower" speed as a free parameter. In this test case, the analysis of a collection of laser shots allowed us to determine with which precision and accuracy we were able to re-measure the speed of light. By using stereo or hybrid events, a modified algorithm accounting for real cosmic ray showers may be able to identify objects propagating significantly below the speed of light.

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