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Status and performance of the underground muon detector of the Pierre Auger Observatory

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The Auger Muons and Infill for the Ground Array (AMIGA) is an enhancement of the Pierre Auger Observatory that aims to lower its energy threshold down to 10^{16.5} eV and to assess the muonic content of air showers directly. These measurements will significantly contribute to the determination of primary particle masses, to the study of hadronic interaction models with air showers, and, in turn, to the understanding of the muon puzzle. As a part of AMIGA, the underground muon detector consists of two triangular grids with spacings of 433 and 750 m; each grid position is equipped with a 30 m^2 plastic scintillator buried at 2.3 m depth. After the successful completion of the engineering array in early 2018 and general improvements to the design, the production phase commenced. This work aims to report on the status of the underground muon detector, particularly, the progress of its deployment, and the performance achieved after two years of data taking. The detector is foreseen to be fully commissioned by mid-2022.

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