

SURFACE DETECTOR ELECTRONICS FOR THE AUGER OBSERVATORY

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The surface array of the Pierre Auger Observatory consists of Cherenkov water tanks each of which are read out by three photomultipliers. The signals are characterized by a very large dynamic range and a long duration time. Furthermore, the separation of electromagnetic and muonic components of the shower yields special requirements on the signal processing. Since the solar energy is used, the power consumption is a crucial criteria for the choice of the electronics. In this paper, the main features of the surface detector electronics will be presented and its performances will be discussed in the light of the physics requirements. Simulations of the tank response will be compared to measurements performed on site.