

Abstract Submitted
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Improving calorimeter resolution using temperature compensation calculations¹ JOSEPH SMIGA, University of Maryland, College Park, MARTIN PURSCHKE, Brookhaven National Laboratory — The sPHENIX experiment is an upgrade of the existing PHENIX apparatus at the Relativistic Heavy-Ion Collider (RHIC). The new detector improves upon measurements of various physical processes, such as jets of particles created during heavy-ion collisions. Prototypes of various calorimeter components were tested at the Fermilab Test Beam Facility (FTBF). This analysis tries to compensate the effects of temperature drifts in the silicon photomultipliers (SiPMs). Temperature data were used to calculate an appropriate compensation factor. This analysis will improve the achievable resolution and will also determine how accurately the temperature must be controlled in the final experiment. This will improve the performance of the calorimeters in the sPHENIX experiment.

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