

Compact W-Si calorimeters for the PHENIX heavy ion experiment at RHIC

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The design and expected performance of tungsten - silicon “nose cone” calorimeters for the upgrade of the Phenix experiment at BNL will be described. The calorimeters will provide precision measurements of individual electromagnetic showers, aid in γ / π^0 / η / hadron identification, and aid in jet finding, jet energy, and impact position measurements. Two photon separation is expected to be provided to $\sim 1/4$ the Moliere radius. The calorimeters will also contribute data for a fast trigger. The design of the nose cone calorimeters provides one model for support, readout, and cooling of calorimeter elements. Design features could be applicable to the larger tungsten - silicon calorimeters under consideration for the ILC.

Authors: Dr KISTENEV, Edward (Brookhaven National Laboratory); Dr COOPER, William (Fermilab)

Presenter: Dr COOPER, William (Fermilab)

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