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Design and performance of one Shashlyk calorimeter for the SoLID project at Jefferson Lab

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SoLID (Solenoidal Large Intensity Device) is a large acceptance spectrometer which can handle very high luminosity, being planned at Jefferson Lab, USA. The Shashlyk-type sampling detector will be used for the electromagnetic calorimeter for SoLID. Several modules of Shashlyk electromagnetic calorimeter have been built in our laboratory to study the structure and the performance. The machining process for several essential materials will be introduced in this talk. One testing system with cosmic ray muon is setup based on flash ADC to study the performance of the module, including the light yield and timing. The effect of the mirror on fiber end, package and coating of the module will be study. One on-line calibration scheme of the calorimeter is discussed. One super-module is assembled with seven modules, the combined test of multi-module with inclined incident muon also will be presented.

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