Response to IST-SSD recommendation.

February 3, 2010

The draft of the Close-out report of the STAR Heavy Flavor Tracker (HFT) Technical, Cost, Schedule and Management (TCSM) Review on November 12-13, 2009 recommends:

"Evaluate the cost, schedule and workforce trade-offs between adding a second layer to the IST nd a single-layer IST plus retaining the SSD. Report results to DOE by March 1, 2010.”

This recommendation originates with the concern about SSD reliability in the future potentially with reduced efficiency. In this report we include two documents

* Evaluation SSD vs. 2nd IST layer
* Like failure modes of SSD

The main conclusions of the two documents are

* Adding a second layer of IST will lead to a cost increase of about $3.4M before contingency, and will likely prolong the project since additional expert manpower is required outside the current IST group.
* The most likely failure modes for the SSD is not that of a complete ladder, but a single one-side of a sensort which will lead to a small loss <0.5% in inefficiency

Our conclusion is that maintaining the current planned configuration with one IST layer and utilizing the existing SSD detector as the second layer is scientifically sound, and cost and resource efficient.