

Online event filtering at BESIII

Thursday 26 March 2009 08:00 (20 minutes)

BEPCII is the electron-positron collider with the highest luminosity at tau-charm energy region and BESIII is the corresponding detector with greatly improve detection capacity. For the accelerator and detector, the event trigger is rather high. In order to reduce the background level and the recorder burden of computers, the online event filtering algorithm is established. Such an algorithm classifies background and physics events as fast as possible by adopting the information provided by different sub-detectors according to their strengths and capacities. The filter efficiency and processor time are also checked. The running results indicate that the algorithm satisfies the requirements of online data acquisition system and corresponding physics analysis. The classified results by online event filtering are also used to estimate the collider luminosity and monitor the status of data-taking process.

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Session Classification: Poster session

Track Classification: Online Computing