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Study of XBPM Diagnostic Parameters in the TPS Frontend

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The XBPM installed in the TPS frontend determines the center position of the photon beam using four CVD diamond blades. The combination of XBPM and upstream/downstream EBPM readings of the insertion device enables verification of the photon beam's alignment along the correct trajectory. Significant changes in the beam position or profile, as well as prolonged periods without recalibration, may cause the XBPM measurement data to lose its reliability. Therefore, evaluating the reliability of the XBPM measurement data is of critical importance. By analyzing the deviation between the theoretical and measured blade intensities and calculating the standard deviation of the similarity percentage among the four blades, a reliability indicator is established. The variation of this indicator is analyzed under different conditions and compared with the corresponding Q values.

Footnotes

Funding Agency

I have read and accept the Conference Policies

Yes

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