

Multi-function use of BPM on CSNS linear accelerator

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The CSNS linear accelerator is equipped with a number of strip-line BPMs, and we will describe the different uses of this type of BPM in machine tuning and operation. The most basic usage is to measure the orbit of the beam. Later, BPM is used to measure the phase and calculate the energy of the beam by the time-of-flight method. Through the improvement of the electronic system, BPM can be used to scan the high RF cavity on the CSNS linear accelerator to find a proper acceleration phase and field amplitude. In the future, maybe we will use this type of BPM to measure beam emittance and twiss parameters on linear accelerators.

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