

International Workshop on Accelerator Alignment



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Alignment of the 12 GeV CEBAF Accelerator

Jefferson lab has just completed an upgrade to its CEBAF accelerator which allows for an increase in the energy of delivered beam from 6 GeV to 12 GeV. The enhancements to the accelerator have included the addition of 10 new high performance cryomodules, and the removal, upgrade and refurbishment of almost 300 existing transport magnets. Outside of the main accelerator, a new experimental hall has been constructed, and the three existing halls are currently being upgraded to take advantage of the higher energies. For this project, a new survey network has been measured and almost every element in the accelerator has been re-aligned. Commissioning of the accelerator took place at the beginning of this year, during the course of which, it became apparent that there was a significant difference between the expected and the actual path length in the machine. This paper describes the measurements taken and analysis used to try and understand this situation.

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