**Abstract**

China Spallation Neutron Source (CSNS), the biggest platform for neutron scattering research in China, will be finished built and run in the end of 2017. It mainly consists of an 80MeV H- linac and an 80MeV to 1.6GeV Rapid Cycling Synchrotron, two beam transport lines, one target station and relative ancillary facilities. The linac beam commissioning with beam loss monitors, current transformers, BPMs, beam profile monitors and beam emission measurement has been the main task since last year. Beam instrumentations, commissioning of the temporary 60MeV linac will be discussed in this paper.

**Introduction**

Beam instrumentations distributed on the CSNS linac are presented above. After the 50keV H-source, there are 2 beam current monitors and an emission monitor installed on the low energy beam transport line (LEBT). At the middle energy beam transport line (MEBT) there are 2 self-made FCTs to monitor the beam current, 7 strip-line beam position monitors and 4 wire scanners to monitor the beam profile for measuring the Twiss parameters of the RFO output beam. The 4-tank 324MHz drift tube linac (DTL) is designed to accelerate the H- beam from 3MeV to 80MeV. At the exit of the 4th tank of an 80MeV DTL, 5 Bergoz FCTs are used to monitor the beam phase for energy measurement by means of time-of-flight (TOF). At present commissioning period, only 3 of the 4 klystrons are available to feed 3MW power into the corresponding DTL tank, therefore tank 1 to 3 have been commissioned and the beam was successfully accelerated to 61MeV. After that, the beam was transported through the last DTL tank and the linac to RCS Beam Transport line (LRBT), and finally directly to the linac to ring dump (LRDMP1). Until May 2017, four runs of linac beam commissioning have been performed.

A Bergoz FCT located at the exit of DTL tank 1 can also work as a BCT for phase detection, by using an RF switch to connect it to different electronics. 4 wire scanners (WS) on MEBT monitor the beam size and emittance for Twiss parameters calculation.

**Conclusion**

The beam instrumentations of CSNS linac were tested fully in the commissioning on RFQ, MEBT, DTL and LRBT. The beam peak current, and energy have been achieved to the design value. The beam transmission efficiency of DTL tank 1st to 3st reached nearly 100%. The last DTL tank will be commissioned in autumn this year.