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The 648 MHz klystron power source system of CSNS-II Linac superconducting ellipsoid cavity

Thursday 29 August 2024 16:00 (2 hours)

The CSNS-II superconducting Linac accelerator includes 20 sets of 324 MHz superconducting spoke cavities and 24 sets of 648 MHz superconducting Ellipsoidal cavities. The beam energy at the end of the superconducting Linac accelerator reaches 300 MeV. The 324 MHz solid-state power source supplies RF power to superconducting Spoke cavity, while the 648 MHz klystron power source supplies RF power to superconducting Ellipsoid cavity. The RF pulse width of the 648 MHz klystron is 1.2 ms, the repetitive frequency is 50 Hz, and the peak power is 800 kW. The 1.5 ms long pulse solid-state modulator provides high voltage pulse for the klystron, and each modulator is equipped with four klystrons.

Footnotes

Funding Agency

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