

# Progress in the development of the cryomodules for CSNS-II superconducting linac

Monday 26 August 2024 16:00 (2 hours)

The China Spallation Neutron Source (CSNS) is designed and constructed by physicists at the Institute of High Energy Physics (IHEP). It is the first pulsed neutron source facility in developing countries, which locates at Dalang Town of Dongguan city, the heart of the Guangdong-Hong Kong- Macao greater bay area. CSNS beam power reached design goal of 100 kW in 2020. The pre-research of CSNS Phase-II (CSNS-II) project started in 2021.

The target beam energy at exit of linac of CSNS-II is more than 300 MeV by building a superconducting linac. The superconducting section of the linac accelerates the beam from 80 MeV to 300 MeV. It is composed of one string of Spoke cavity cryomodules and one string of elliptical cavity cryomodules. There are ten sets of Spoke cavity cryomodules, each cryomodule contain two Spoke Niobium cavities operating at 2 K and at a frequency of 324 MHz. The prototype of Spoke cavity cryomodule is designed and under horizontal cryogenic test at Platform of Advanced Photon Source Technology R&D (PAPS), which is located in Beijing city. The test result shows that the cryomodule can operate stably at 2 K and the total heat load of Spoke cavity cryomodule is less than 20 Watt @2K.

## Footnotes

## Funding Agency

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