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Return of experience in the commissioning of the new CLS LINAC injector

Tuesday 3 June 2025 16:00 (2 hours)

After more than 40 years of services the 2856˜MHz linac injector of The Canadian Light Source (CLS) has been retired to leave space for a new 3000.24˜MHz linac injector, the frequency of which is a multiple of the 500.04˜MHz CESR-B type superconductive radio frequency cavity. The new CLS linac injector has been designed and built by RI Research Instruments GmbH. The design is based on their robust S-band technology RF structures that already serve other laboratories in the USA, Australia, Taiwan, Switzerland and Sweden. In order to save money and space the CLS has replaced its six long Accelerating RF structures (3.4˜m long) delivering 250˜MeV electron beam by three 5˜m long accelerating structures that will deliver the same beam energy. In order to do so, one RF structure is powered by one modulator-klystron and the last two RF structures received their RF power from a second modulator-klystron that passes through a SLED system. The SLED system multiplies the power by a factor 5 to 6 and is then equally split to power each structure. We are reporting on the progress of the commissioning of this new injector.

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