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LANSCCE 805 MHz klystron performance analysis

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Los Alamos Neutron Science Center (LANSCCE) relies on 44 klystron modulator systems to feed the accelerating cavities and produce proton beam of 800 MeV. This paper focuses on the new VA-862A1 86kV 1.25 MW klystron units and aims to compare their performance with previously purchased units. Service hours for each klystron unit was used as the primary metric in the analysis and records from various sources cross-corroborated to confirm recorded information. Factors such as prior repair/rebuilds, factory acceptance tests and runtime notes were carefully inspected to provide a comprehensive view of the klystron performance during analysis. Klystron units currently being used in the LINAC were surveyed along with failed units and analysis performed to predict the next failure. The frequency and cause of failure was also compared with historical performance and failure data and results utilized for LANSCCE SCCL performance optimization.

Footnotes

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North America

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