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RF power generation I

Wednesday, 21 June 2023 08:30 (1 hour)

We reviewed the main types of RF power amplifiers used for particle accelerators.

It covers vacuum beam tubes, specifically gridded tubes, including tetrodes, inductive output tubes, klystrons, and transistor amplifiers, with power outputs greater than 10 kW CW or 100 kW pulsed at frequencies from 50 MHz to 1 GHz.

Functioning principle and construction aspects of these various items were presented.

Factors affecting the satisfactory operation of amplifiers, including cooling, matching, and protection circuits, were discussed.

The presentation concludes with a summary on the topic of efficiency.

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