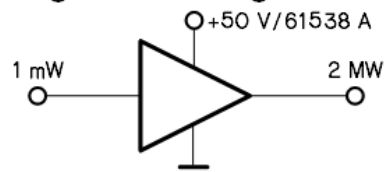


Twelfth Continuous Wave and High Average Power RF Workshop



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Contribution ID: 10

Type: **Invited talk 45'**

CERN SPS RF SSPA, from design to operation

Monday, September 12, 2022 11:10 AM (1 hour)

Within the frame of our LHC Injector Upgrade program, CERN decided to build two new amplifiers of 2 MW cw operating at 200 MHz. These amplifiers are based on Solid State technology, and use Cavity Combiner systems to reach the required power levels. Availability being the key word with respect to beam operation, the amplifier architecture choices will be explained. After a review of the challenges we had to face during the design phase of this new amplifiers, the difficulties of such a large production, as well as the commissioning and the performances obtained during the first years will be presented. With respect to global efficiency, hints to improve the wall-plug efficiency with a large RF amplifier will also be proposed.

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Track Classification: Solid state amplifiers