Abstracts

Operational S-Band Traveling-Wave Maser System in 15°K Closed-Cycle Refrigerator

J. Wolczok and J.G. Smith. "Operational S-Band Traveling-Wave Maser System in 15°K Closed-Cycle Refrigerator." 1968 G-MTT International Microwave Symposium Digest and Technical Program 68.1 (1968 [MWSYM]): 209-216.

The design of practical traveling-wave masers has, in the past, been limited to physical temperatures in the range of liquid helium (<= 5°K). The advantages of TWM operation at such low temperatures are manifold. All of the important operating characteristics of a TWM such as gain, instantaneous bandwidth, tuning bandwidth, effective noise temperature, etc. improve as the physical temperature is lowered. The consequence of such operation has been a sophisticated, large, and costly cryogenic system to provide the necessary environment.

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