

# Abstracts

## A D-Band Monolithic Fundamental Oscillator Using InP-Based HEMT's (1993 [MCS])

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*Y. Kwon, D. Pavlidis, T. Brock and D.C. Streit. "A D-Band Monolithic Fundamental Oscillator Using InP-Based HEMT's (1993 [MCS])." 1993 Microwave and Millimeter-Wave Monolithic Circuits Symposium Digest 93.1 (1993 [MCS]): 49-52.*

The design and experimental characteristics of the first fundamental D-band monolithic HEMT oscillator are reported. The circuit is based on a dual feedback topology and uses 0.1  $\mu\text{m}$  pseudomorphic double heterojunction InAlAs/In/sub 0.7/Ga/sub 0.3/As HEMT's. It includes on-chip bias circuitry and an integrated E-field probe for direct radiation into the waveguide. An oscillation frequency of 130.7 GHz was measured and the output power level was -7.9 dBm using HEMT's of small gate periphery (90  $\mu\text{m}$ ). This represents the highest frequency of fundamental signal generation out of monolithic chips using three-terminal devices.

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