

## Array of Coupled Phase-Locked Oscillators at 160 GHz

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*T. Geist and H.-J. Hartfuss. "Array of Coupled Phase-Locked Oscillators at 160 GHz." 1996 Microwave and Guided Wave Letters 6.6 (Jun. 1996 [MGWL]): 235-237.*

A ten-channel millimeter-wave heterodyne phase measurement system is currently under construction. This system will be used for electron density measurement at the plasma experiment W7-AS. Main features are: 1) twofold usage of each 160-GHz oscillator to excite both the transmitting signal to the plasma and the local oscillator (LO) signal for downconversion and 2) the phase-locked loops (PLL's) of each oscillator are coupled in a chain. This letter describes the millimeter-wave part and the digital PLL circuits of that system. Test results of the first three channels, which are already running in the laboratory, are presented.

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