Abstracts

Injection- and phase-locking techniques for beam control [antenna arrays]

R.A. York and T. Itoh. "Injection- and phase-locking techniques for beam control [antenna arrays]." 1998 Transactions on Microwave Theory and Techniques 46.11 (Nov. 1998, Part II [T-MTT] (Special Issue on Innovative Integration Techniques for Microwave and Millimeter-Wave Circuits)): 1920-1929.

Applications of millimeter-wave radar, imaging, and communication technology requires cost-effective implementation of intelligent scanning antenna systems. Injection-locking and phase-locked-loop (PLL) techniques can be used to achieve synchronous operation of a number of antenna array elements, and allow for the manipulation of the phase distribution without additional phase-shifting circuitry, suggesting a potential for low-cost beam-scanning systems. This paper describes a number of techniques, with an assessment of some remaining technical challenges for practical implementation.

❑ Return to main document.