# Abstracts

## Low-noise cryogenic X-band amplifier using wet-etched hydrogen passivated InP HEMT devices

*I. Lopez-Fernandez, J.D.G. Puyol, O.J. Homan and A.B. Cancio. "Low-noise cryogenic X-band amplifier using wet-etched hydrogen passivated InP HEMT devices." 1999 Microwave and Guided Wave Letters 9.10 (Oct. 1999 [MGWL]): 413-415.*

The performance of a cryogenically cooled X-band amplifier for the geodetic VLBI X-band (8.1-9.0 GHz) is presented. The amplifier incorporates hydrogen passivated InP devices with 0.2/spl times/200 /spl mu/m gate. A comparison of the noise performance with selected commercially available GaAs high electron mobility transistor (HEMT) devices of similar dimensions is presented. The InP amplifier shows lower noise temperature (Tn=4.8 K, NF=0.07 dB) than GaAs, with very low power dissipation (2 mW per stage). This is the first report on the cryogenic noise performance of hydrogen passivated InP HEMT's in this frequency band.

❑ Return to main document.