

Lattice damage in III/V compound semiconductors caused by dry etching

M. Heinbach

Technical University Munich, D-80290 Munich, Germany

J. Kaindl

Fachhochschule Munich, D-80335 Munich, Germany

G. Franz

Siemens Research Laboratories, D-81730 Munich, Germany

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The crystal damage in optoelectronic devices caused by dry etching methods [ion beam etching, reactive ion etching, etching with plasmas excited by electron cyclotron resonance (ECR)] was evaluated. The analytics applied are photoluminescence and Fabry-Perot damping measurement which were applied to waveguides. A significant improvement is observed using ECR etching as low damage combined with high etching rates is concerned. To evaluate a method as soft or hard etching, Fabry-Perot damping measurement has emerged to be the most discriminate and decisive tool. © 1995 American Institute of Physics.