

DRY ETCHING OF GERMANIUM WAVEGUIDES BY USING CHF₃ INDUCTIVELY COUPLED PLASMA

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Abstract: A dry etching procedure to etch germanium in a CHF₃ inductively coupled plasma (ICP) using a polymer based photoresist mask was developed to obtain a high selectivity ratio as well as to obtain a near vertical anisotropic sidewall etch profile. In this study, a sidewall angle of 85° with an etch rate of 190 nm/min was obtained through optimization of the ICP bias power to fabricate germanium waveguide structures with no under-cut.