

AWG-Spectrometer to Analyze Absorption Spectra of Optical Gas Sensors Fabricated by Femtosecond Laser Processing

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Abstract. By a simple femtosecond laser process, we fabricate metal-oxide/gold composite films for electrical and optical gas sensors. We designed a dripple wavelength AWG-spectrometer, matched to the plasma absorption wavelength region of the composite films. H₂/CO absorptions fit well with the AWG design for multi gas detection sensor arrays.