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SURFACE PLASMON RESONANCE GAS SENSOR

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A gas sensor based on surface plasmon resonance has been developed. The plasmon is excited on a gold diffraction grating. A grating with optimal parameters has been chosen amount few configuration of grating. The angle of incidence and the wavelength of incident radiation were optimised for effective plasmon excitation. Also, different types of functionalization of the gold surface were studied. Different ligands for sensing different gases were studied. We report the results for CO₂ sensing. The sensor chip were optimised for getting maximum sensitivity and stability. A special attention has been paid to the stability of sensor's characteristics. The developed sensors can be used not only for CO₂ but for other oxidic gases sensing. A commercialised version of the sensor can be applied for monitoring greenhouse effect.