

## Optical Biosensor Based on Surface Plasmon Resonance

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Surface plasmon resonance (SPR) has been extensively developed into a useful technique in the fields of chemical and biosensors. SPR is a phenomenon which involves variable absorption of light by the surface electron plasma of a metal film under specific resonance conditions. Thus, any physical phenomenon at the surface that alters the refractive index will elicit a response. The key advantage of SPR biosensors is that data may be collected in real time without the need to labeling reactants, providing detailed information about binding reaction. The lack of labeling requirements, low sample consumption and ease of use has made SPR optical biosensors an essential component of both academic and commercial laboratories. SPR technology is suitable for a wide range of applications, including absorbance, biokinetic, biosensing technique, gas detection, immunosensing, bulk liquid measurements.

This study presents a brief overview of the SPR phenomenon, a description of our sensor system design, and experiments conducted on the system, which define the system performance. And we present examples of a few of applications and a recently developed commercial SPR system.