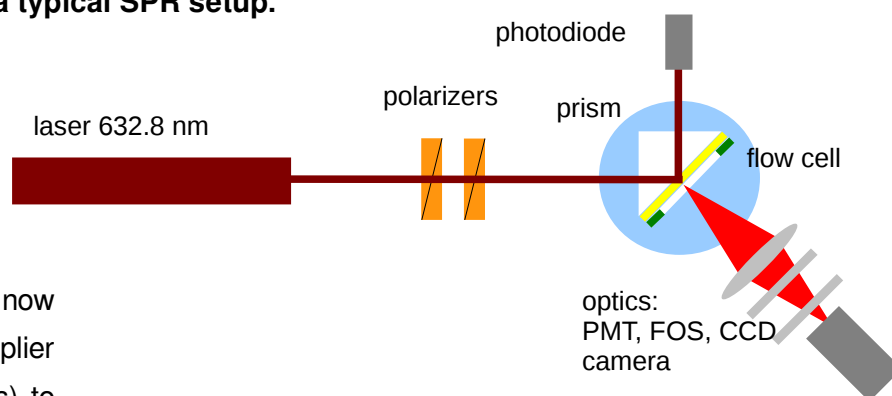


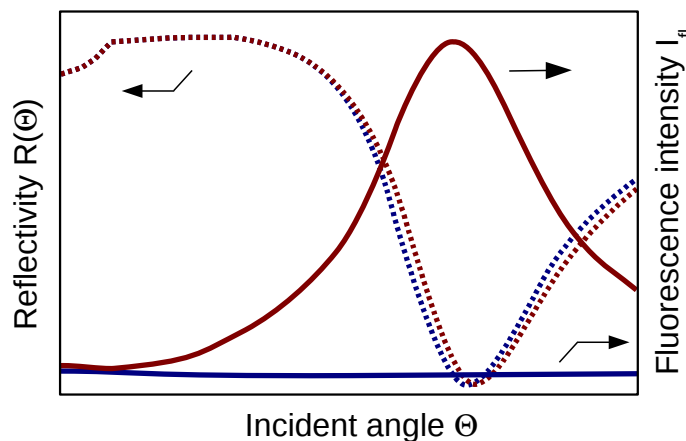
## Surface plasmon field-enhanced fluorescence spectroscopy

Surface-plasmon field-enhanced fluorescence spectroscopy is a clever combination of these two spectroscopies for sensor applications. The method is based on the strong field enhancement generated by the resonant coupling of the PSP mode at the metal/buffer interface in a typical SPR setup.



The spectrometer is now equipped with a photo-multiplier (and some additional optics) to collect the fluorescence light, emitted from the metal/dielectric interface through the flow cell.

This setup can be used for example to detect the binding of a fluorescently labelled analyte in a bioassay as schematically shown in the figure on the right.



The SPR reflectivity and the fluorescence intensity are plotted as function of  $\Theta$  during an angular scan before and after the binding event, respectively. Only a small shift in the resonance angle of the plasmon is found but a strong fluorescence after the binding clearly shows the successful attachment of the analyte molecule to the biosensor. More examples are explained in the literature.

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