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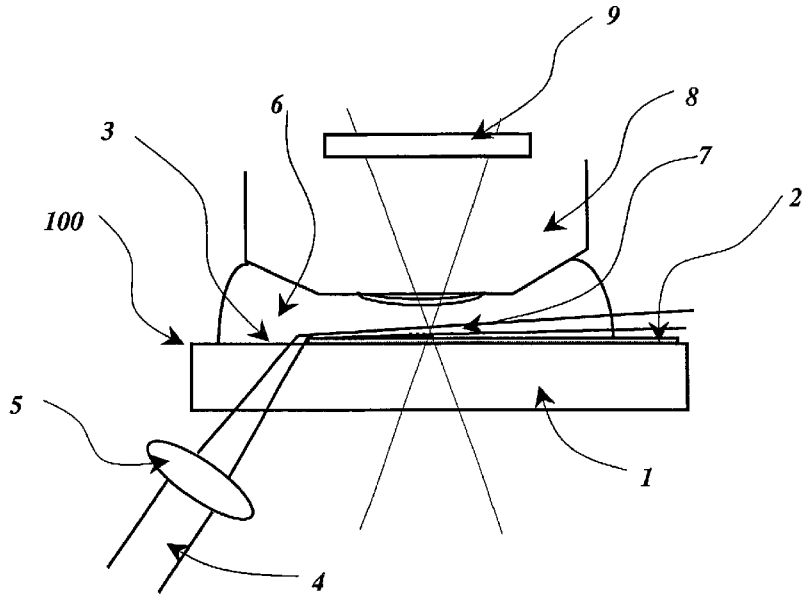
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(54) Title: OPTICAL DETECTION AND ANALYSIS OF PARTICLES




(57) Abstract: Method and apparatus for the single particle detection of submicron structures such as biological molecules and viruses utilises an optical element (100) comprising an optically transparent substrate (1) partially coated with a thin film of metal (2) illuminated with an optical beam (4) incident on a non-metal coated region (3) of the surface of the optical element at a point adjacent or close to the metal coated region of the optical element such that the beam propagates above but close and substantially parallel to the metal surface defining a measurement zone from within which submicron particles (7) contained in a sample (6) placed in contact with the optical element scatter or emit light which can be detected in the far field by conventional photodetection systems. The apparatus can be configured in a flow cell or optical microscope configuration.

WO 03/093801 A1