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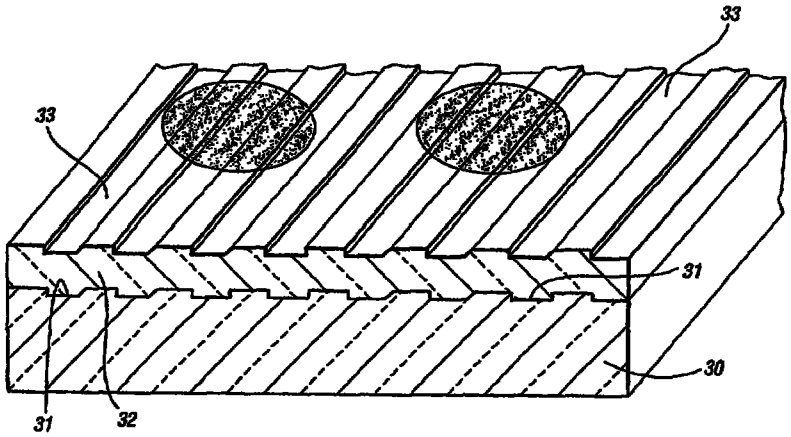
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(54) Title: SENSOR PLATFORM, APPARATUS INCORPORATING THE PLATFORM, AND PROCESS USING THE PLATFORM



(57) Abstract: A sensor platform for use in sample analysis comprises a substrate (30) of refractive index (n_1) and a thin, optically transparent layer (32) of refractive index (n_2) on the substrate, (n_2) is greater than (n_1). The platform incorporates one or multiple corrugated structures in the form of periodic grooves (31), (33), which defines one or more sensing areas each for one of more capture elements. The grooves are so profiled, dimensioned and oriented that when coherent light is incident on the platform it is diffracted into individual beams or diffraction order resulting in reduction of the transmitted beam and an anormal high reflection of the incident light thereby creates an enhanced evanescent field at the surface of the or each sensing area. The amplitude of this field at the resonant condition is greater by an order of approximately 100 than the field of prior art platforms so that the luminescence intensity created from samples on the platform is also increased by a factor of 100. Also disclosed is an apparatus incorporating the platform and a method of using the platform.

WO 01/02839 A1

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