

Title (en)

OPTICAL MICROPROBES AND METHODS FOR SPECTRAL ANALYSIS OF MATERIALS

Title (de)

OPTISCHE MIKROSONDEN UND VERFAHREN ZUR SPEKTRALANALYSE VON MATERIALIEN

Title (fr)

MICROSONDES OPTIQUES ET PROCEDES D'ANALYSE SPECTRALE DES MATERIAUX

Publication

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Application

EP 96926237 A 19960801

Priority

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Abstract (en)

[origin: WO9705473A1] An optical probe collects light emanating from a specimen that selectively and preferentially represents a localized volume element within the sample, with illumination intensity and collection efficacy both dropping off away from the localized volume element to limit the integrated contribution from outside the element. For example, the optics provide high peak illumination and high collection efficiency which both overlap in volume elements of a limited size corresponding to a structure or process of the specimen. The resulting collected signal comprising one or more spectral segments is highly correlated with optical characteristics, such as absorbance, scattering or fluorescence characteristics of material in the small volume elements. A processor may apply a previously-derived vector or matrix transform to the collected responses to produce an output. The collected spectra or other responses have high signal strength and represent small or otherwise inaccessible or masked optical effects present in the sample, so that they are readily correlated to conditions of interest.

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