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(57) Abstract :
The intention behind this invention is design and analysis of Lab-on-a-Chip device sensor using DGTD technique of Mie Scattering phenomenon to facilitate further fabrication. Our idea is to develop a non-invasive diagnostics tool for the detection of cancer. Mie theory can be used to classify that scattered visible light from tissue differentiates the healthy cell and malignant cell nuclei and for optical analysis of haematology and its related diseases. Discontinuous Galerkin Time Domain (DGTD) method forms a class of numerical methods for solving differential equations. It provides superior performance, independent of geometry complexity, within a design environment. Total Field Scattered Field (TFSF) in DGTD can be of any arbitrary shape so scattering and absorption methods can be defined over a curved surface. The data extracted by the sensor device can later be pre-processed to extract essential insights about the user.

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