(19) INDIA

(22) Date of filing of Application :23/08/2023

(43) Publication Date: 01/03/2024

(54) Title of the invention: A POLAR-AZIMUTHAL TEMPERATURE -DEPENDENT LIGHT SCATTERING DEVICE

(51) International classification :A61B0005000000, H04B0010610000, G16H0050200000, A61B0001045000, H04J0014060000

(86) International Application No Filing Date :NA

(87) International Publication No : NA (61) Patent of Addition :NA

to Application Number :NA
Filing Date
(62) Divisional to

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(57) Abstract:

In the present disclosure A Polar-Azimuthal Temperature-dependent Light Scattering device does the following tasks to obtain temperature dependent morphological data of a subject along an Polar-Azimuthal axis. The tasks include obtain a optical signal from a coherent light source, subject the obtained optical signal to a beam spilter to generate a first refernce optical signal and a second refernce optical signal, subject the second refernce optical signal to a Polar-Azimuthal Temperature-dependent Light Scattering device to generate a captured electrical signal, generate analytical morphological data using a data analytical unit, based on the second refernce optical signal and the captured electrical signal. followed by subject the second reference optical signal to a polarization unit to generate a polarized signal, subject the polarized signal to a sample under a specific condition formed using a peltier unit, receive reflected optical signals using a detector along poloar azimuthal angle, generate output electrical signal based on the received reflected optical signals.

No. of Pages: 27 No. of Claims: 9