

(54) Title of the invention : Advanced Nanocomposite Material with Tailored Optical Properties

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(57) Abstract :

The proposed invention introduces an advanced nanocomposite material with tailored optical properties, enabling precise control over light absorption, transmission, reflection, and scattering. The nanocomposite material comprises nanoscale components, such as nanoparticles, nanowires, or quantum dots, dispersed within a matrix material. By manipulating the composition, structure, and arrangement of these nanoscale constituents, the material's optical behavior can be customized to meet specific application requirements. This innovation holds immense potential for enhancing various industries, including photovoltaics, optical sensors, displays, and telecommunications, by optimizing optical functionality. Through innovative material design, synthesis techniques, and characterization methods, this invention paves the way for the development of efficient and versatile optical devices.

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