



BCSIR Dhaka Laboratories, BCSIR

Product Name

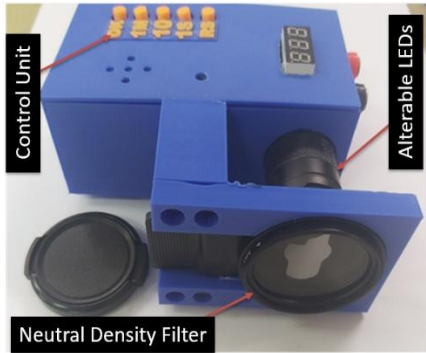
Light source with variable intensities and illumination periods using alterable LED wavelengths

Area

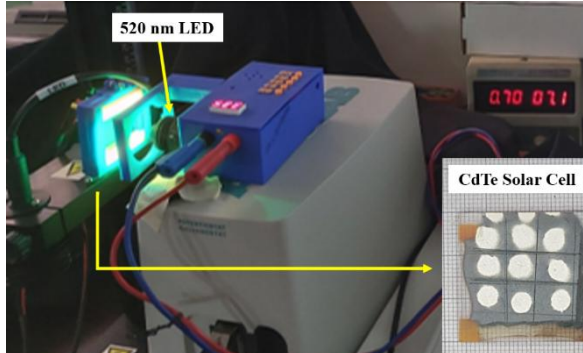
Laboratory, Industry

Uses

Photophysical and Photochemical property analysis



Light Source



Use of Light Source

A versatile light source contains a great value in the field of research and analysis. For example, lights of different color are used to measure the quality of different layers of a solar panel. The overall performance characteristics and efficiency can also be measured by light. At present time researchers are working relentlessly to produce hydrogen which could be a replacement of fossil fuel by splitting water using solar panel. To conduct this type of research the requirement of a light source is inevitable. Dyes used in textile industries affect environment in multiple ways such as compromising the quality of water bodies, inhibiting plant growth, promoting toxicity, impairing photosynthesis etc. To analyze the characteristics and degradation of these dyes photocatalysts are used. Light is required to work with these photocatalysts. In short, where any photophysical or photochemical property is to be found out, light is an absolute necessity there. Conventional light sources used for these types of researches have lots of limitations. For example a broadband Xenon arc lamp is costly, requires cumbersome operation and maintenance, need expensive filter, cannot produce variable intensity light or periodic illumination, heavy to work with and so difficult to change orientation. Moreover these types of light sources are limited to specific applications. The developed light source would be portable, consume low power, easy to change orientation in experimental setup, and most importantly can be used in any type of research where illumination on certain apparatus or sample is required.

Major Raw Material

AVR 328P Microcontroller, LED, 5 Volt relay, Diodes, Resistors, Capacitors, Voltage regulator IC (7805), PCB, Connectors etc.

**Major Plant Equipment/Machinery
Details of specific application**

3D Printer, Hand drill

This product is mainly used to investigate photophysical and photochemical properties of any photoactive material.

Status of Development

This process is accepted by the BCSIR authority.

**Ecological/Environmental Impact
(if any, specify briefly)**

This process is environment friendly and after commercialization this product able to fulfill our national demand.

Techno-Economics

Available on demand

Cost of product

9200 Tk/pc

Contact Address

Industrial Physics Division, BCSIR Dhaka Laboratories

Director, BCSIR Dhaka Laboratories, Phone: 0258617924

Sr. Ind. Liaison Officer, BCSIR, Dhaka.