Innovative Photocatalytic Reactors

CLAIM:
High-efficiency solar photocatalytic reactor for water and air purification using nanocomposite metal oxide film coated fibers.

NOVELTIES:
- Side-glowing optical fibers incorporated in quartz photoreactors deliver interior and exterior light transmission and catalyst support.
- Novel nanocomposite metal oxide films significantly improve photoreaction efficiency, expanding the use of narrow UV light to broad visible light spectrum.

FEATURES:
- Enhanced catalyst support reduces purification time and improves output.
- Utilizes solar power to provide a low maintenance purification system for drinking water, water reuse, and air purification in households and on-site treatment facilities.
- The technology is scalable and highly flexible.

POTENTIAL APPLICATIONS:
- Public and commercial health safety
- Water purification for households
- Air purification
- Water reclamation

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