

Are granular porous calcium carbonate particles suitable for direct solar thermochemical heat storage?

Here, novel granular porous calcium carbonate particles with very high solar absorptance, energy storage density, abrasive resistances, and energy storage rate are proposed for direct solar thermochemical heat storage. The average solar absorptance is improved by 234% compared with ordinary particles.

Can calcium carbonate improve energy storage performance?

Researchers have tried to improve energy storage performances of calcium carbonate recently, but most researches focus on powders, which are not suitable for scalable applications.

Is calcium carbonate a good thermochemical heat storage material?

Calcium carbonate is promising thermochemical heat storage material for next-generation solar power systems due to its high energy storage density, low cost, and high operation temperature.

Are transparent hydrophobic coatings good for solar cells?

Wang P, Yan X, Zeng J, Luo C, Wang C. Anti-reflective superhydrophobic coatings with excellent durable and Self-cleaning properties for solar cells. Appl Surf Sci. 2022;602:154408. Quan YY, Zhang LZ. Experimental investigation of the anti-dust effect of transparent hydrophobic coatings applied for solar cell covering glass.

Which polymers are used in self-cleaning nano-coatings?

Various types of hydrophobic polymers are employed in the development of self-cleaning nano-coatings, including polymethylmethacrylate, polytetrafluoroethylene, and polydimethylsiloxane (PDMS). PDMS polymer is widely used due to its low refractive index, which significantly enhances glass transparency by up to 85%.

Is there an automatic cleaning system for photovoltaic plants?

Gheitasi A, Almaliky A, Albaqawi N. Development of an Automatic Cleaning System for Photovoltaic Plants. In: 2015 IEEE PES Asia-Pacific Power and Energy Engineering Conference. Brisbane; 2015 Nov 15-18.

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The purpose of this paper is to invent a better rare-earth-based pigment material as a spectral modifier with good luminescence properties to enhance the spectral response for photovoltaic ...

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