

Adjustable transmittance solar glass





Overview

This article offers a multilayers structure smart glass with a metal-particle-doped photovoltaic material layer, which can reach selective transmission of human eye spectral response and relatively high photoelectric conversion efficiency. Can a KPP smart window change the solar transmittance?

From the above discussion, it can be seen that the KPP smart window can spontaneously adjust the solar transmittance and switch the ϵ Front through flipping the window to meet the energy-saving requirements in different seasons.

What is tunable emissivity thermochromic smart window?

For the first time, we developed a novel tunable emissivity thermochromic smart window (TET smart window) to regulate both solar transmission and thermal radiation. The fabricated TET smart window shown a high T_{lum} of 71.6% at room temperature and a solar modulation ability (ΔT_{sol}) of 50.3%.

Does Tet smart window give a significant solar modulation?

It can be observed that TET smart window gives a significant solar modulation from 380 to 1400 nm which is the solar energy dense region according to the solar irradiance spectrum for air mass 1.5 (corresponding to the sun standing 37° above the horizon with 1.5-atmosphere thickness, namely AM1.5 global spectrum).

How do thermochromic smart windows show infrared transmittance contrast?

Conventional thermochromic smart windows have mainly focused on vanadium dioxide (VO_2), which shows infrared transmittance contrast due to a metal-insulator transition at approximately $68^\circ C$ 17.



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Finally, to illustrate the advantages of this study, a comprehensive comparison of electrochromic, thermochromic, and liquid crystal-based smart windows is presented from six perspectives: ...



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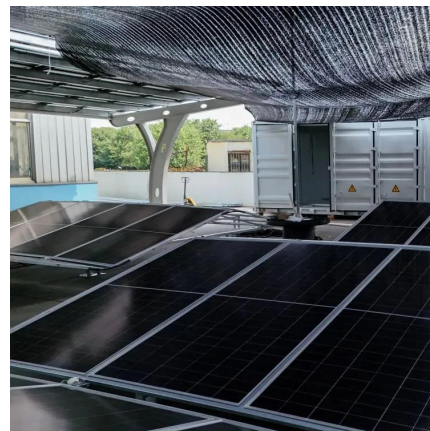


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in this paper provide sufficient information to interpolate values for other angles with reasonable accuracy. The overall solar transmittance for the TI-system and solar absorptivity at the glass ...



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