



Radiative Cooling

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Message from the Guest Editors

Dear Colleagues,

As an effective and renewable way of passive cooling without power input, radiative cooling has attracted considerable attention in the field of energy-saving and has been recognized as one of the ambient-energy harvesting technologies. Radiative cooling can cool the sky-faced objects by radiating a fraction of the object's thermal radiation to the cold universe (~3K), mainly relying on the atmospheric transparency window in the infrared band from 8 to 13 μm . Recent progress has demonstrated that a variety of optical emitters can achieve efficient radiative cooling, including multilayer films, photonic coolers, porous polymers, and optical paints. On the system level, radiative cooling has been used in various applications, such as building energy-saving, photovoltaic cooling, water collection, and personal thermal management.

This Special Issue is set up to explore new findings on the radiative cooling topics that can be interesting concepts, novel designs, and potential applications, which aims to further promote the development of radiative cooling and correspondingly achieve fossil energy saving and greenhouse gas emissions reduction.





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