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APPLICATIONS OF GRAPHENE IN SPACECRAFT ENGINEERING

Abstract

Graphene is a carbon nanomaterial with one-atom-thick and its carbon atoms tightly packed into a two dimensional honeycomb lattice. For its unusual monolayer atomic structure, graphene has novel and unique physical and chemical properties in electronic, photonic, thermal and mechanical, etc, and has potential applications in modified electrodes, chemical power sources, solar batteries, catalysts and gas sensors, etc.

In this paper, the applications of graphene in spacecraft engineering such as power sources, thermal control, electrostatic prevention, gas sensors, new structural material, new electronic devices, etc, are introduced and discussed. These have important value in lightening the weight of spacecraft, improving the space environment flexibility, and increasing the reliability and life length, and so on.