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Effectiveness in the absorption of X-rays by composite materials doped with graphene

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Abstract

In the University Center of Defense in San Javier, composite sheets based on carbon fiber and epoxy matrix have been prepared, with some of them doped with graphene oxide or with 0.1% graphite from Sigma-Aldritch and manufatured by us.

These sheets were then irradiated with X-rays in the radiodiagnosis service of the Mesa del Castillo Hospital, Murcia, Spain. Radiation absorption measures via image analysis were performed and it has been shown that graphene-doped sheets absorb an important part of the X-ray intensity over a wide range of energy. These experiments were repeated over various ranges of frequency and energy with similar results.

Biography:

Fernando Gimeno-Bellver has been a full-time lecturer for 10 years at the university's defense center and has published more than 15 articles in journals related to functional materials and technology.

Speaker Publications:

1. "Graphene oxide and graphene oxide functionalized with silver nanoparticles as adsorbents of phosphates in waters. A comparative study"; Science of The Total Environment/ 2019.

2. "Many-particle equilibrium properties of glassy chalcogenides: Numerical simulations in the coulomb glass model"; 2015.

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