



TECHNOLOGY DESCRIPTION

The technology provider has developed an electronic housing made of carbon-fibre-reinforced plastic (CFRP) for a space application. Since 2005, the technology provider has been investigating the electromagnetic interference (EMI) properties of CFRP in collaboration with several German and European entities. An enhancement of the electrical conductivity of the CFRP laminate is accomplished thanks to a matrix (resin system) including carbon nanotubes.



INNOVATIVE ASPECTS

The electronic housing (EMI box) achieved a similar electromagnetic shielding performance with significantly less mass (20-30 %) compared to typical benchmarks, e.g. to an ultralight aluminium electronic box orbiting the sun on the SOHO satellite. Through the carbon nanotubes, the requirements regarding the electromagnetic shielding can be met without additional conductive layers like a copper mesh or through metallization.

Current specifications:

- dimensions: 243 mm x 275 mm x 255 mm
- mass: 610 g (excl. electronic boards)
- possible number of boards: 10 (7,5 kg)



TECHNOLOGY READINESS (in space application)

TRL 6-8 (2024)

COUNTRY OF ORIGIN

Germany

LATEST UPDATE

06/2024

TAGS

#electromagnetic #housing #shielding #ultralight #CFRP #nanotubes

APPLICATION AREAS

Aviation	Health	Electrical & Electronic Engineering	Data Processing, Software & AI	Mechanical Engineering	Space technologies	Transport & Logistics
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