Carbon Nanotubes in Future's Spacesuits

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Missions to explore the moon and Mars are confronted with great difficulties and challenges, one of these challenges is to reduce and eliminate the harmful impact of the dust on the astronaut’s spacesuits and equipment. This dust can cause hardware failures and damage to camera lenses, thermal radiators, solar panels and spacesuits. This research aims to develop the astronaut's spacesuit by finding materials that can be fabricated and used to make it lighter, stronger with higher resistance to impact and wear to preserve the astronaut’s health and save his life. Using an outer layer of carbon nanotubes yarn on the spacesuit can protect the astronaut from fine and coarse statically charged dust, dust particles on the surface can be discharged and repelled by means of vibration. Nanotubes have several mechanical and electrical properties that allow it to deal with this dust and repel it without causing any rupture or wear to it while preventing dust particles from reaching the astronaut or his inhalation system. This can be used to protect the astronaut and help him to carry on his work and exploring the moon and Mars successfully.

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