

Effect of Various Nanocarbons on Sulphur Morphology

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Abstract

Mixing of nanocarbons with sulphur employing various mechanical ways is the technique how to improve weak properties of sulphur. Modification of nanocarbons with organic matter is the way how to improve two inorganic matters interface.

The process of modification was chosen for each carbon type different; the carbon nanotubes were modified using organic peroxides while low dimensional graphite was modified during mechanochemical process of exfoliation (Fig.1)

Using several mechanical homogenization techniques such as ball milling, jet milling or shear grinding, we could observe various morphology of prepared sulphur powder.

Most of the carbon nanopowders covered a majority of sulphur surface creating conductive layer on non-conductive sulphur (Fig.2). However fibrous and tubular carbons build conductive bridges among sulphur particles.

The effect of morphology of both materials on powder conductivity will be observed.

Figures

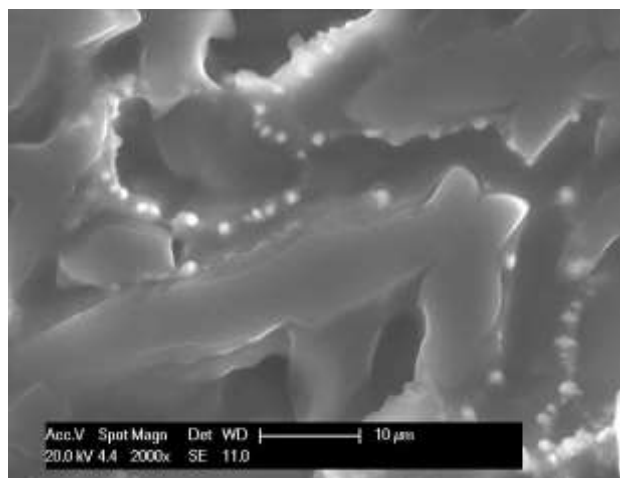


Figure 1: Modified exfoliated graphite via mechano-chemical process

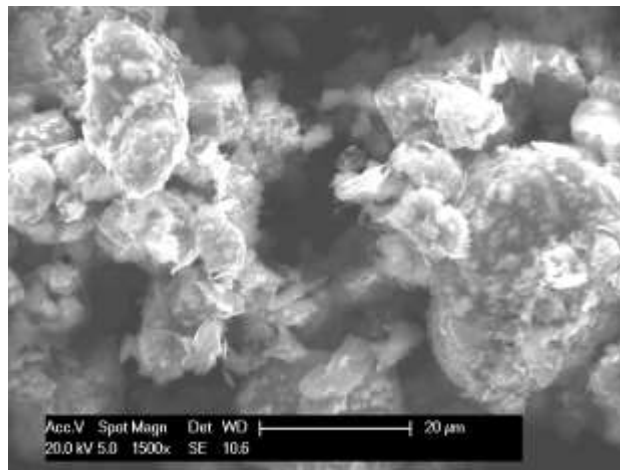


Figure 2: Sulphur powder covered with exfoliated graphite powder