

Supporting Information for the article in

Soft Matter

Nanocomposites combining conducting and superparamagnetic components prepared *via* an organogel

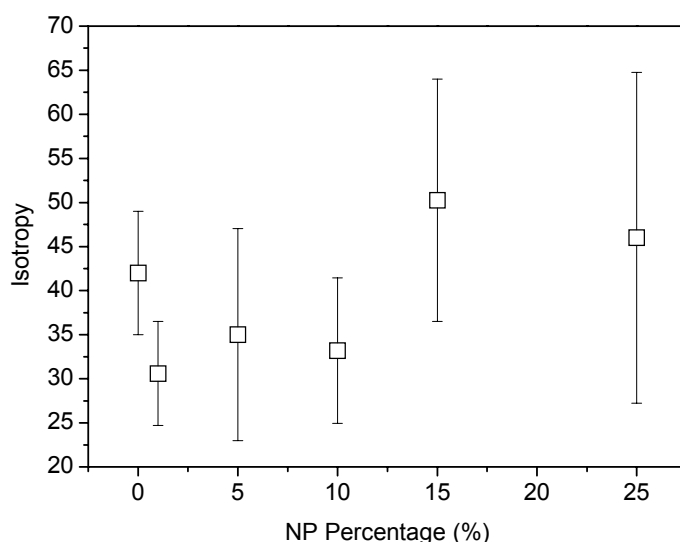
by

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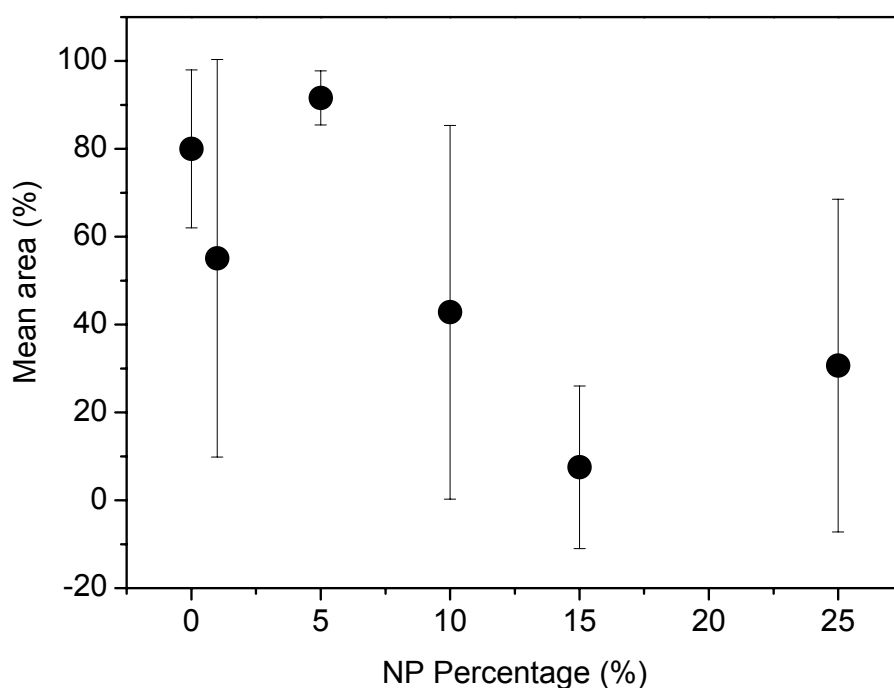
Analysis of anisotropy of fibres in conducting (doped) xerogel samples

Ratio (in percentage) of the shortest decrease length at 0.2 from the autocorrelation image, on the greatest length. This parameter has a result between 0 and 1. If the value is near 1, we can say that the surface is isotropic, i.e. has the same characteristics in all directions. If the value is near 0, the surface is anisotropic, i.e. has an oriented and/or periodical structure.



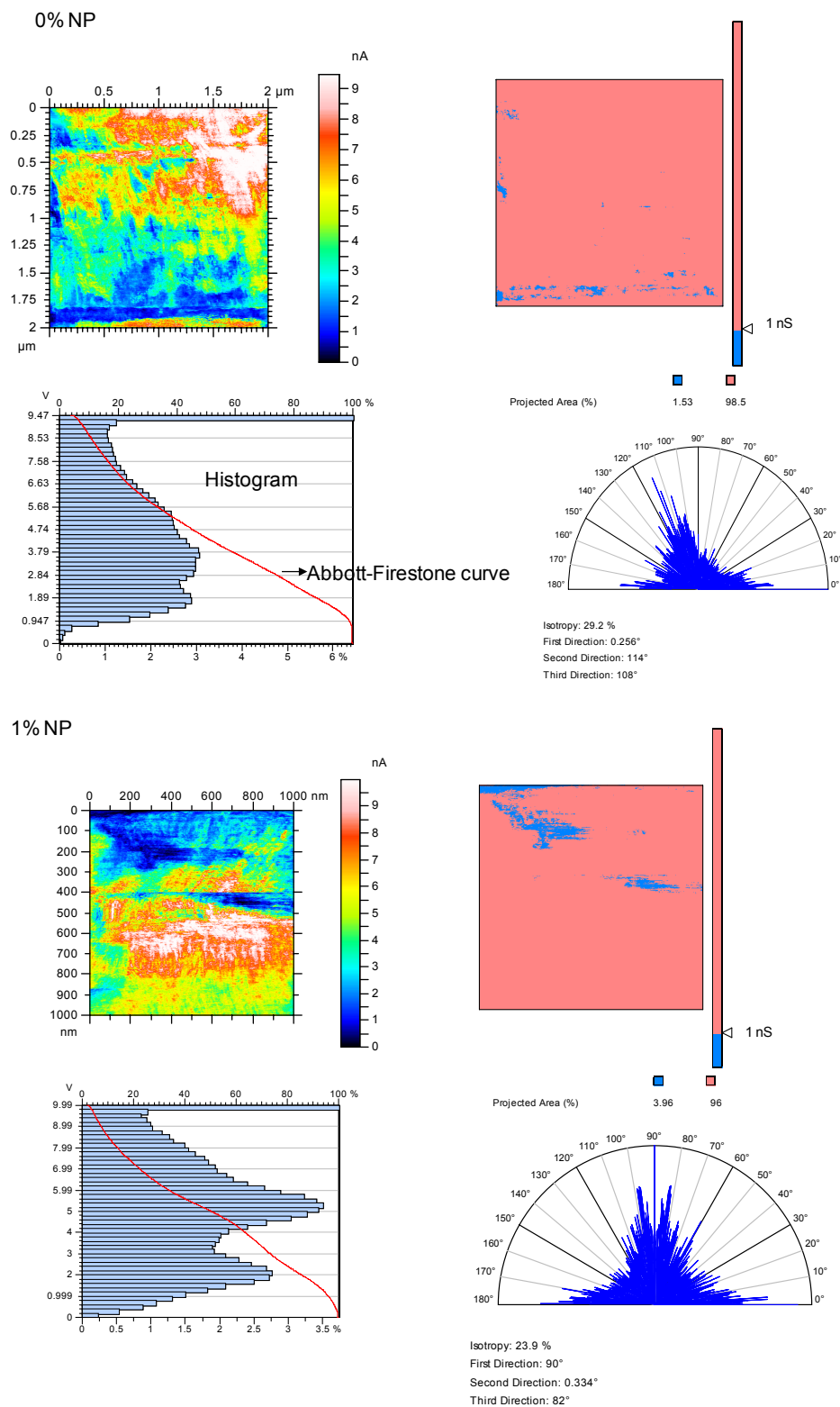
Estimation of conducting domain size.

In order to quantify the highly conducting areas in the CS-AFM images, an analysis of the percentage area with conductance above 1 ns has been performed, and the results are shown graphically below. As the percentage of NPs is increased in the samples, the general trend is that the highly conducting areas are decreased greatly.

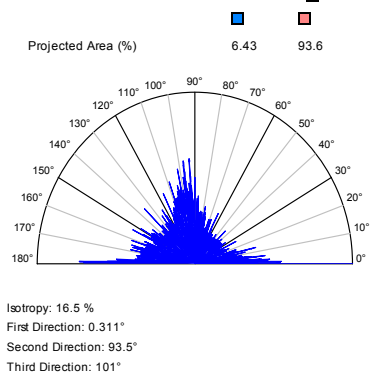
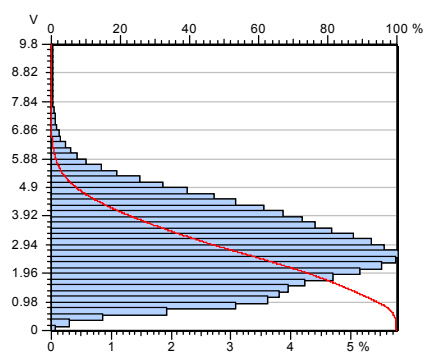
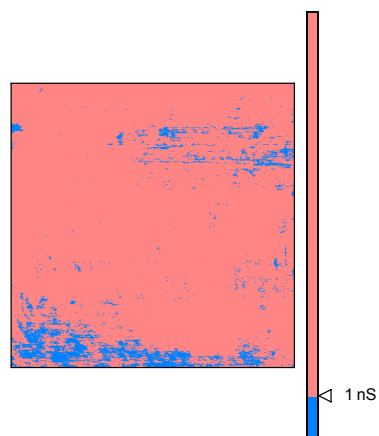
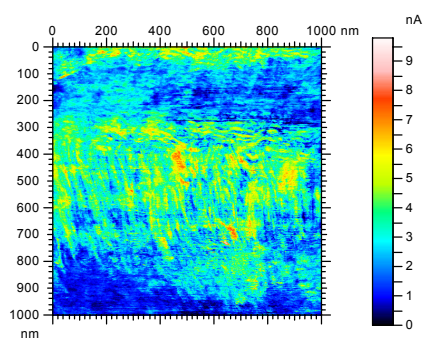


Images from analysis of anisotropy of fibres in conducting (doped) xerogel samples and areas of conducting material

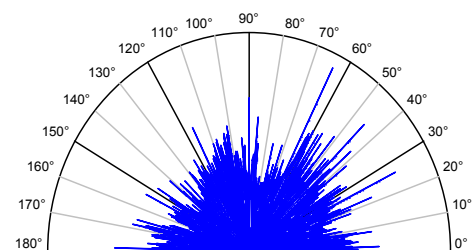
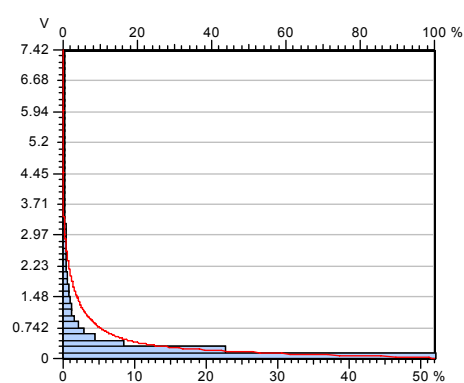
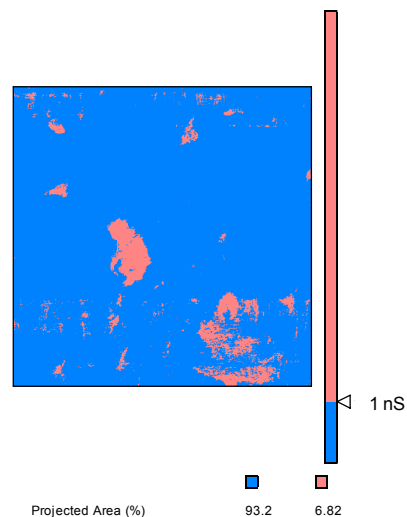
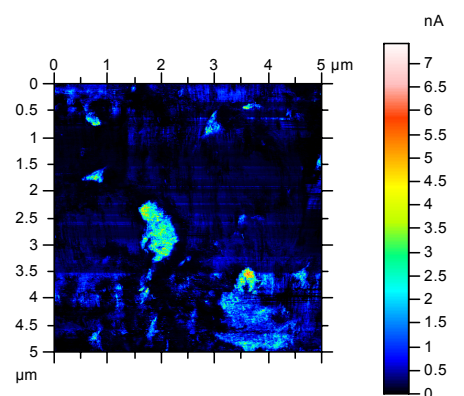
Below are the images and analyses of the analysis of anisotropy of the gel samples containing nanoparticles as a function of the proportion of the latter.



5% NP

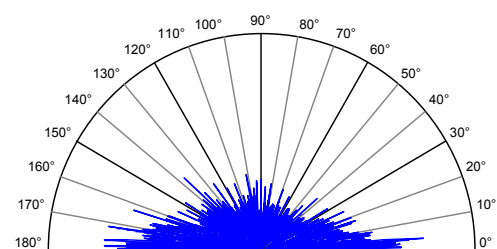
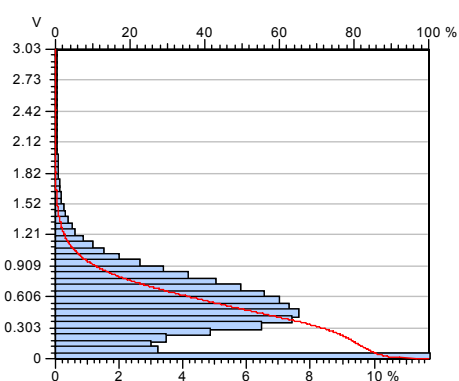
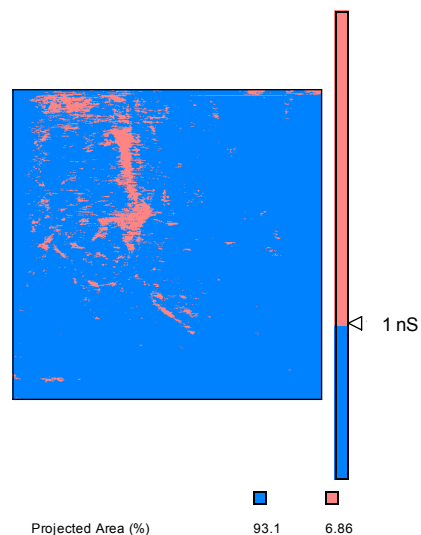
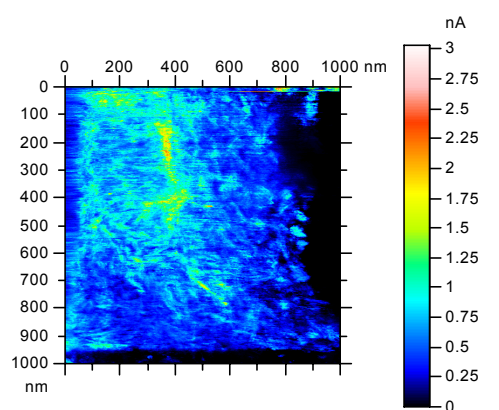


15% NP



Isotropy: 45.2 %
 First Direction: 0.301°
 Second Direction: 63.5°
 Third Direction: 45°

25% NP



Isotropy: 33.8 %
 First Direction: 0.32°
 Second Direction: 171°
 Third Direction: 163°