Effectiveness of the random sequential absorption algorithm in the analysis of volume elements with nanoplatelets

In this work, a study of the Random Sequential Absorption (RSA) algorithm in the generation of nanoplatelet Volume Elements (VEs) is carried out. The effect of the algorithm input parameters on the reinforcement distribution is studied through the implementation of statistical tools, showing that the platelet distribution is systematically affected by these parameters. The consequence is that a parametric analysis of the VE input parameters may be biased by hidden differences in the filler distribution. The same statistical tools used in the analysis are implemented in a modified RSA algorithm to overcome this issue.

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