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## COMPUTER MODELLING OF STRUCTURE-PROPERTY RELATIONSHIP IN CNT-POLYMER COMPOSITES

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The development of composites by addition of carbon nanotubes (CNT) to a polymer matrix is of particular interest due to significant changes in the composite properties depending on its morphology. To understand structure-property relations in such materials a computer code was developed to create a model composite structure with a non-uniform distribution probability of CTNs within the polymer matrix, using NVIDIA CUDA GPGPU approach. The code is capable of randomly populating and analyzing samples of the typical size of experimental microphotographs and CNT concentrations avoiding unphysical intersections and thus allows correlating the morphological results with the composite mechanical properties.