

# On the physical interpretation of some types of three-dimensional harmonic mappings

Andrey Petrin

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The development of the theory of three-dimensional harmonic mappings is considered. The new classes of mappings that generate three-dimensional harmonic functions are introduced. The physical interpretation of these mappings is applied to electrostatics problems. It is found that these mappings locally conserve electric charge of the equipotential surfaces. To confirm the correctness of the theory it is shown that by using the proposed mappings the electric field in two known electrostatic problems can be found.

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