Accepted Manuscript

Mapping physical problems on fractals onto boundary value problems within continuum framework

Alexander S. Balankin

 PII:
 S0375-9601(17)31118-0

 DOI:
 https://doi.org/10.1016/j.physleta.2017.11.005

 Reference:
 PLA 24821

To appear in: *Physics Letters A*

Received date:26 September 2017Revised date:6 November 2017Accepted date:7 November 2017

Please cite this article in press as: A.S. Balankin, Mapping physical problems on fractals onto boundary value problems within continuum framework, *Phys. Lett. A* (2018), https://doi.org/10.1016/j.physleta.2017.11.005

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.



Highlights

- Quantification of fractal features of scale-invariant materials is discussed.
- Effects of fractal connectivity, geodesic metric, and loop structure are outlined.
- Laplace operator in fractional dimensional space with fractal metric is deduced.
- Mapping of problems on fractals into continuum framework is developed.
- Interplay between fractal metric, measure, and topology is highlighted.

Download English Version:

https://daneshyari.com/en/article/8204183

Download Persian Version:

https://daneshyari.com/article/8204183

Daneshyari.com