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Iterative refinement of implicit boundary models for improved geological feature reproduction

Ryan Martin, Jeff Boisvert

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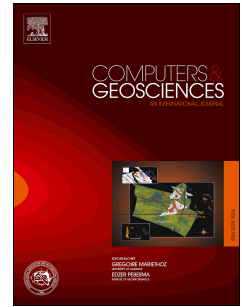
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1 **Iterative refinement of implicit boundary models for improved geological**
2 **feature reproduction**

3 Ryan Martin ^{a,b,c}, Jeff Boisvert ^{a,b,d}

4 ^a Center for Computational Geostatistics, Edmonton, Canada

5 ^b University of Alberta, Edmonton, Canada

6 ^c rdm1@ualberta.ca

7 ^d jbb@ualberta.ca

8
9 Corresponding Author: Ryan Martin – rdm1@ualberta.ca – 1-780-887-3496

10 6-241 Donadeo Innovation Centre For Engineering,

11 9211-116 Street,

12 University of Alberta,

13 Edmonton, Alberta, Canada T6G 1H9

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15
16 **Abstract**

17 *Geological domains contain non-stationary features that cannot be described by a single direction of*
18 *continuity. Non-stationary estimation frameworks generate more realistic curvilinear interpretations of*
19 *subsurface geometries. A radial basis function (RBF) based implicit modeling framework using domain*
20 *decomposition is developed that permits introduction of locally varying orientations and magnitudes of*
21 *anisotropy for boundary models to better account for the local variability of complex geological deposits.*
22 *The interpolation framework is paired with a method to automatically infer the locally predominant*
23 *orientations, which results in a rapid and robust iterative non-stationary boundary modeling technique*
24 *that can refine locally anisotropic geological shapes automatically from the sample data. The method also*

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