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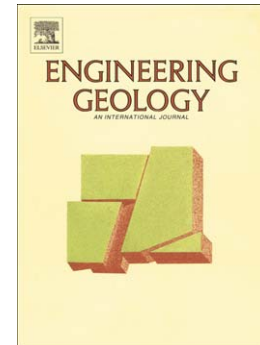
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Thermal response of a Canadian conceptual deep geological repository in crystalline rock and a method to correct the influence of the near-field adiabatic boundary condition

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Abstract: This paper describes the thermal performance of a conceptual deep geological repository (DGR) involving a container for used CANDU fuel and its placement concept in crystalline rock. For numerical reasons, separate near-field and far-field models are usually used to model a DGR. In the near-field models, an adiabatic thermal condition is applied on the four vertical outside boundaries, and as such, this represents a repository with an infinite horizontal dimension. The results from such models are known to be accurate at early times, with the thermal response overestimated at longer times. To examine the influence of this boundary condition, a simplified near-field model is built using COMSOL and a method is developed to

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