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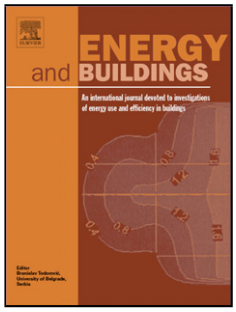

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Effects of the geothermal load on the ground temperature recovery in a ground heat exchanger

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Highlights

- Model of how the geothermal load affects ground temperature recovery
- Decreasing the geothermal load and increasing the recovery time can improve recovery
- Recovery time is a significantly influence at low soil thermal conductivity
- Considering the recovery time can reduce the design length of a borehole

Abstract

The effects of the geothermal load on the ground temperature recovery in a ground heat exchanger (GHE) were investigated. A three-dimensional equivalent transient GHE analysis model was developed and validated against measured thermal response test (TRT) data and sandbox reference dataset. The effects of amount of geothermal load, duration of the recovery

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