

# Optimal Installation Configuration of Thermoelectric Generators

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## Abstract

This study presents a multiphysics model for the convective, conductive and radiative heat transfer for thermoelectric generators (TEG), which are used to convert heat flux into electrical current. The model basically consists of heat transfer in solids, heat transfer in thin shells with surface-to-surface radiation and non-isothermal turbulent flow of the air. The developed model matches well to the measurements. The model is used to estimate the optimal configuration for TEG installation so that the maximal temperatures do not exceed allowable values and at the same time maximum heat flux through the TEG is obtained.