

Existence and Long Time Behavior of Solutions to Obstacle Thermistor Equations

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Abstract

In this paper we introduce an obstacle thermistor systems arising from the study of Micromachined structures by taking the temperature losses in the the surrounding gas and radiation effects into consideration. The existence of weak solution to the steady state systems and capacity solutions to the time dependent systems are obtained by a penalized method under reasonable assumptions on the data. In addition absorbing set and global attractors of the systems are discussed.