

A Dead Oil Isotherm Optimal Control Problem

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Abstract

We are interested to study a system of nonlinear partial differential equations resulting from traditional modeling of oil engineering within the framework of the mechanics of the continuous medium. The purpose of this paper is to establish existence and regularity of an optimal solution for this system. We also established necessary optimality conditions.

Keywords: optimal control; dead oil isotherm problem, regularity, necessary optimality conditions.

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