



The effect of thermal losses on traveling waves for in-situ combustion in porous medium

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We present the paper [1], where a model for the injection of air into an underground porous medium that contains a solid fuel was studied. In previous works the model was simplified and all wave sequences for the Riemann problem solution were obtained without taking into account thermal losses to the surrounding rock. In that work the first step was made to understand the effect of heat losses, which are important especially in laboratory experiments. In order to simplify the proof of the existence and uniqueness of the traveling wave solution, diffusion effects and the dependence of gas density on temperature were disregarded. Now we will generalize the model adding diffusion effects similarly to what was done in [2]. We also will present numerical simulation.

Referências

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Palavras-chave: *Injection of air, Porous medium, Thermal losses, Traveling wave.*

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