

# Well-posedness and energy decay of swelling porous elastic soils with a second sound and delay term

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## Abstract

In this paper we consider a one-dimensional swelling porous-elastic system with second sound and delay term acting on the porous equation. Under suitable assumptions on the weight of delay, we establish the well-posedness of the system by using semigroup theory and we prove that the unique dissipation due to the delay time is strong enough to exponentially stabilize the system when the speeds of wave propagation are equal.

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