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*The one-phase Stefan problem with a latent heat of fusion depending of the position of the free boundary and its velocity*

From the one-dimensional consolidation of fine-grained soils with threshold gradient, it can be derived a special type of Stefan problems where the seepage front, due to the presence of this threshold gradient, exhibits the features of a moving boundary. In this kind of problems, in contrast with the classical Stefan problem, the latent heat depends inversely with the rate of change of the seepage front (e.g. Zhou-Bu-Lu, Int. J. Numerical and Analytical Methods in Geomechanics, 37 (2013), 2825-2832). A one-phase Stefan problem with a latent heat that not only depends on the rate of change of the free boundary but also on its position is studied. The aim of this analysis is to extend prior results, finding an analytical solution that recovers, by specifying some parameters, the solutions already examined in the literature regarding Stefan problems with variable latent heat. Moreover, we also consider different boundary conditions at the fixed face. This is a joint paper with Julieta Bollati (CONICET and Universidad Austral).