

## STEFAN PROBLEMS WITH THE UNILATERAL BOUNDARY CONDITION ON THE FIXED BOUNDARY II

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### 0. Introduction

In this paper we consider the following one-dimensional two-phase Stefan problem with the unilateral boundary condition on the fixed boundary: Given the initial data,  $l$  and  $\phi$ , find a critical time  $T^*$ , and the two functions  $s=s(t)$  and  $u=u(x, t)$  defined on  $[0, T^*]$  such that

$$\left\{ \begin{array}{ll} (0.1) & s(0) = l, \quad 0 < s(t) < 1 \quad (0 \leq t < T^*), \\ (0.2) & u_{xx} - c_0 u_t = 0 \quad (0 < x < s(t), \quad 0 < t < T^*), \\ (0.3) & u_{xx} - c_1 u_t = 0 \quad (s(t) < x < 1, \quad 0 < t < T^*), \end{array} \right.$$