

## THE THIN OBSTACLE PROBLEM: A SURVEY

XAVIER FERNÁNDEZ-REAL

**Abstract:** In this work we present a general introduction to the Signorini problem (or thin obstacle problem). It is a self-contained survey that aims to cover the main currently known results regarding the thin obstacle problem. We present the theory with some proofs, from the optimal regularity of solutions and classification of free boundary points to more recent results on the non-regular part of the free boundary and generic regularity.

**2010 Mathematics Subject Classification:** 35R35, 47G20.

**Key words:** thin obstacle problem, Signorini problem, survey, free boundary, fractional obstacle problem.