1093-35-317   **Donatella Danielli*** (`danielli@math.purdue.edu`), Department of Mathematics, Purdue University, 150 N. University St., West Lafayette, IN 47907, and **Nicola Garofalo**, **Arshak Petrosyan** and **Tung To**. *Optimal Regularity and the Free Boundary in the Parabolic Signorini Problem.*

We give a comprehensive treatment of the parabolic Signorini problem based on a generalization of Almgren's monotonicity of the frequency. This includes the proof of the optimal regularity of solutions, classification of free boundary points, the regularity of the regular set and the structure of the singular set. (Received August 19, 2013)