

1014-35-201 **Xuming Xie*** (xxie@morgan.edu), Dept. of Math., Morgan State University, Baltimore, MD
21251. *Analytic solutions of some free boundary problems.*

We consider some initial value problems arising in dendritic crystal growth and Rayleigh-Taylor flow. Existence and uniqueness of analytic solutions to these problems are obtained. The analysis is based on a Nirenberg Theorem on abstract Cauchy-Kovalevsky equations in Banach spaces. (Received August 18, 2005)