1000-35-26 **Peter Ebenfelt** and **Dmitry Khavinson*** (`dmitry@uark.edu`), Department of Mathematics, University of Arkansas, SCEN 301, Fayetteville, AR 72701, and **Harold S. Shapiro**. *Algebraic aspects of solutions of the Dirichlet problem.*

It is well known that the solution to the Dirichlet problem in the ball in R^n with a polynomial data on the unit sphere is itself a harmonic polynomial. W. Ross, T. Ferguson and R. Walker dimensions the same holds for the data that is a rational function. In this talk we shall discuss why and how this latter result fails in dimensions three and higher and also discuss similar questions for algebraic data. (Received July 11, 2004)