1059-31-28 **Mark Agranovsky** and **Dmitry Khavinson*** (dkhavins@cas.usf.edu), Department of Mathematics, University of South Florida, 4202 E. Fowler Avenue, Tampa, FL 33620, and **Harold S. Shapiro**. *Malmheden's theorem revisited.*

Abstract: In 1934 H. Malmheden discovered an elegant geometric algorithm for solving the Dirichlet problem in a ball. Although his result was rediscovered independently by Duffin 23 years later, it still does not seem to be widely known. In this paper we return to Malmheden's theorem, give an alternative proof of the result that allows generalization to polyharmonic functions and, also, discuss applications of his theorem to geometric properties of harmonic measures in balls in $\mathbb{R}^n$. (Received February 01, 2010)