Meeting: 1003, Atlanta, Georgia, AMS CP 1, AMS Contributed Paper Session

1003-11-966 **Peter Borwein**, Department of Mathematics and Statistics, Simon Fraser University, Burnaby, B.C. V5A 1S6, Canada, **Edward Dobrowolski**, Department of Mathematics, College of New Caledonia, Prince George, B.C. V2N 1P8, Canada, **Artūras Dubickas**, Department of Mathematics and Informatics, Vilnius University, Vilnius, Lithuania, and **Michael J. Mossinghoff*** (mjm@member.ams.org), Department of Mathematics, Davidson College, Davidson, NC 28035-6996. *Lehmer's problem for Littlewood polynomials.*

In 1933, D. H. Lehmer asked if Mahler's measure of a polynomial with integer coefficients having at least one root off the unit circle is bounded away from 1. We resolve this problem for the case of the Littlewood polynomials, which have all their coefficients equal to ± 1. In fact, we solve the problem for any polynomial with no cyclotomic factors whose coefficients are all congruent to 1 modulo a fixed integer $m \geq 2$. Similar methods allow us to resolve the related question of Schinzel and Zassenhaus on algebraic numbers for the same class of polynomials. (Received October 01, 2004)