1046-11-1459 **Andrew Shallue*** (ashallue@math.ucalgary.ca), University of Calgary, Department of Mathematics and Statistics, 2500 University Drive NW, Calgary, Alberta T2N1N4, Canada, and **Eric Bach**. *Composites with large sets of strong liars.* Preliminary report.

The Miller-Rabin primality test is often used in practice to determine if an integer is prime or composite. This test generates a random $a \in (Z/(n))^*$ and then determines whether n is a strong pseudoprime to the base a. For composite n, the set $S(n)$ of a for which the test mistakenly returns "prime" has size at most $(n-1)/4$. Our goal is to find infinite classes of composite integers with large sets $S(n)$. For example, Carmichael numbers with three prime factors, all congruent to $1 \mod 4$, have $S(n) = \phi(n)/4$. However, it seems difficult to prove that infinitely many exist. In this talk we present "almost Carmichael" numbers, a provably infinite class, and give lower bounds on $|S(n)|$ when n is almost Carmichael. (Received September 15, 2008)