1046-A2-694   **Ken Ono*** (`ono@math.wisc.edu`), Department of Mathematics, University of Wisconsin, Madison, WI 53706. *Hooks and infinite product power series.*

Infinite product power series play a central role in many areas of number theory. Classical works of Euler, Gauss, and Jacobi are fundamental tools in the subject. Indeed, the Jacobi Triple Product Identity appears prominently in many disciplines: quadratic forms, mathematical physics, the theory of partitions, to name a few. In this lecture we shall discuss a most beautiful identity of Nekrasov and 2006 Fields Medalist Okounkov, and a generalization by Han, which involves partitions and their hooks. We shall discuss some of the applications of these identities in enumerative combinatorics and number theory. (Received September 10, 2008)