Alain Togbe\* (atogbe@pnc.edu), 1401 S U.S. Hwy 421, Westville, IN 46391. On the Diophantine equation  $x! + 1 = y^2$ .

The Brocard-Ramanujan Diophantine equation

$$x! + 1 = y^2$$

is still an open problem. Many variants of the Brocard-Ramanujan Diophantine equation have been studied. In this talk, we will discuss the recent progress and the variants of the problem. (Received February 13, 2006)