1067-01-2392 **Paul R. Bialek*** (pbialek@tiu.edu), Department of Mathematics, Trinity International University, 2065 Half Day Rd, Deerfield, IL 60015. *Euler's proof that every prime of the form $4n + 1$ is sum of two squares.*

Fermat was the first to conjecture that an odd prime p can be expressed as the sum of two squares $x^2 + y^2$ if and only if p is congruent to 1 (mod 4). In his paper, "Proof of a theorem of Fermat that every prime number of the form $4n + 1$ is a sum of two squares" [E241], Euler outlines a proof of this conjecture. We will present a translation from the Latin and a summary of this previously untranslated paper. (Received September 23, 2010)