

1026-11-198

Susil Kumar Jena* (susil_kumar@yahoo.co.uk), Susil Kumar Jena, Professor, Deptt. of Electronics & Telecom, Engineering, Bhubaneswar, Orissa, 751024, India. *Revisit on $A^4 = B^4 + C^4 + D^4 - E^4 - F^4$.*

On a preliminary report in the abstract, the author has communicated to the American Mathematical Society for Meeting No-1025 that the fourth power of any integer can always be expressed as the sum or difference of five other fourth power of integers, all different in magnitude. For this equation, the first few solutions for (A, B, C, D, E, F) was given. But in this paper we will note a more powerful result that any fourth power of A can always be expressed in infinite number of ways as the sum or difference of five other fourth power of integers. We will produce different parametric solutions for this equation with this infinitude characteristic. These results will sharpen our understanding about the deep nature of whole numbers on fourth power of integers. (Received February 27, 2007)