

1024-11-216

Susil Kumar Jena* (susil_kumar@yahoo.co.uk), Department of Electronics & Telecommunication, KIIT University, Bhubaneswar-751024, Orissa, India. *On the diophantine equation: $A^2 + B^4 + C^4 = D^8$. Preliminary report.*

The diophantine equation: $A^2 + B^4 + C^4 = D^8$ has infinitely many solutions in positive integers, the first four solutions being (47,4,8,3), (6433,28,32,9), (661633, 992,128,33) and (47447953, 948, 648, 83) for (A, B, C, D) . In the present paper, the author would give a parametric solution for this problem. The result would broaden our understanding of the peculiar nature of such similar problems in diophantine arithmetic and especially on the Euler's equation: $x^4 + y^4 + z^4 = t^4$. (Received January 09, 2007)