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**COUNTEREXAMPLE TO EULER’S CONJECTURE ON SUMS OF LIKE POWERS**

**BY L. J. LANDER AND T. R. PARKIN**

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A direct search on the CDC 6600 yielded

\[27^5 + 84^5 + 110^5 + 133^5 = 144^5\]

as the smallest instance in which four fifth powers sum to a fifth power. This is a counterexample to a conjecture by Euler [1] that at least \(n\) \(n\)th powers are required to sum to an \(n\)th power, \(n > 2\).

**REFERENCE**