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## On the estimate for a mean value relative to $4 / \mathrm{p}=1 / \mathrm{n} \_1+1 / \mathrm{n} \_\mathbf{2 + 1} / \mathrm{n} \_3$

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For the positive integer $\$ n \$$, let $\$ f(n) \$$ denote the number of positive integer solutions $\$\left(n \_1, n \_2, n \_3\right) \$$ of the Diophantine equation $\$ \$\{4$ lover $n\}=\{1$ lover n_1\}+\{1lover n_2\}+\{1lover n_3\}. \$\$ For the prime number \$p\$, \$f(p)\$ can be split into \$f_1(p)+f_2(p),\$ where \$f_i(p)(i=1, 2)\$ counts those solutions with exactly $\$ \mathbf{i} \$$ of denominators $\$ n \_1, n \_2, n \_3 \$$ divisible by $\$ p . \$$ Recently Terence Tao proved that \$\$ \sum_\{p<x\}f_1(p)\II x|exp(\{clog xlover Vog $\log x\}$ ) $\$ \$$ with other results. In this paper we shall improve it to $\$ \$$ \sum_


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