A bold conjecture about a way in which any square of prime can be written

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Abstract. In this paper I make a conjecture which states that any square of a prime greater than or equal to 7 can be written at least in one way as a sum of three odd primes, not necessarily distinct, but all three of the form 10k + 3 or all three of the form 10k + 7.

Conjecture:

Any square of a prime greater than or equal to 7 can be written at least in one way as a sum of three odd primes, not necessarily distinct, but all three of the form 10k + 3 or all three of the form 10k + 7.

Verifying the conjecture:
(For the first few primes greater than or equal to 7)
(Note that we will not show all ways in which a square of a prime can be written in the way mentioned but only one way, enough to confirm the conjecture)

: $7^2 = 49 = 13 + 13 + 23$;
: $11^2 = 121 = 37 + 37 + 47$;
: $13^2 = 169 = 13 + 43 + 113$;
: $17^2 = 289 = 13 + 13 + 263$;
: $19^2 = 361 = 7 + 17 + 337$;
: $23^2 = 529 = 13 + 53 + 563$.

Conjecture:

Any square of a prime $p^2$, where $p$ is greater than or equal to 7, can be written as $p^2 = 2m + n$, where $m$ and $n$ are distinct primes, both of the form 10k + 3 or both of the form 10k + 7.

Verifying the conjecture:
(For the first few primes greater than or equal to 7)
(Note that we will not show all ways in which a square of a prime can be written in the way mentioned but only one way, enough to confirm the conjecture)
\[ 7^2 = 49 = 2 \times 13 + 23; \]
\[ 11^2 = 121 = 2 \times 37 + 47; \]
\[ 13^2 = 169 = 2 \times 43 + 83; \]
\[ 17^2 = 289 = 2 \times 13 + 263; \]
\[ 19^2 = 361 = 2 \times 7 + 347; \]
\[ 23^2 = 529 = 2 \times 13 + 503. \]