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Stochastic multiresonance for a fractional linear oscillator with time-delayed kernel and quadratic noise

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Highlights:

- The stochastic resonance for a fractional oscillator with time-delayed kernel and quadratic trichotomous noise is investigated.
- It is found that the system output amplitude (SPA) is a periodical function of the kernel delayed-time.
- Stochastic multiplicative phenomenon appears on the SPA versus the driving frequency, versus the noise amplitude, and versus the fractional exponent.
- The non-monotonous dependence of the SPA on the system parameters is also discussed.

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