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Innumerable Sequences of Hyperbolic Polynomial Diophantine Triples

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Abstract: *This paper presents a novel construction of infinite sequence of Hyperbolic polynomial Diophantine triples using Vieta polynomials with the property D(m). Initial pairs formed by these polynomial-derived hyperbolic numbers are extended to triples through algebraic manipulations. A recursive application then chains these triples into infinite sequences, where each subsequent triple emerges from the pair of the previous hyperbolic triple construction*
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Keywords: Diophantine triple, Hyperbolic number, Vieta-Fibonacci polynomial, Vieta-Lucas polynomial, Vieta-Pell polynomial, Vieta-Pell-Lucas polynomial, Integer sequence

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