Patterns in 1-Additive Sequences

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Abstract

Queneau observed that certain 1-additive sequences (defined by Ulam) are regular in the sense that differences between adjacent terms are eventually periodic. This paper extends Queneau's work and my recent work toward characterizing periods and fundamental differences of all regular 1-additive sequences. Relevant computer investigations of associated nonlinear recurring sequences give rise to unexpected evidence suggesting several conjectures.