QUASI–PERIODIC SOLUTIONS OF FRACTIONAL NABLA DIFFERENCE SYSTEMS

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Abstract. In this paper, we analyse periodic properties of fractional nabla difference systems. First, we prove that a system of fractional nabla difference equations with a periodic right hand side can not possess a periodic solution. Next, we establish sufficient conditions on the existence of a unique $S$-asymptotically $T$-periodic solution for this difference system. Finally, we provide an example illustrating the obtained results.

Keywords and phrases: Fractional order, backward (nabla) difference, fixed point, existence, uniqueness, periodic.

REFERENCES


