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On sequences preserving summability

In this talk we introduce and characterise sequences preserving summability. We also explain their importance for the study of summable formal power series solutions of moment differential equations.

In particular we show that the sequence $([n]_q!)_{n \geq 0}$ preserves summability for every $q \in [0, 1)$. This allows us to find summable solutions of linear q -difference-differential equations with constant coefficients.

REFERENCES

- [1] K. Ichinobe, S. Michalik, *On the summability and convergence of formal solutions of linear q -difference-differential equations with constant coefficients*, submitted, available at <https://arxiv.org/abs/2301.10331>.