SEMI-DISCRETE INGHAM TYPE INEQUALITIES

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We report on a joint work [3] with P. Loreti. One of the general methods in linear control theory is based on harmonic and non-harmonic Fourier series. The key of this approach is the establishment of various suitable adaptations and generalizations of the classical Parseval equality. A new and systematic approach was begun in our paper [1] in collaboration with C. Baiocchi. Many recent results of this kind, obtained through various Ingham type theorems, were exposed recently in [2]. Although this work was concentrated on continuous models, in connection with numerical simulations a natural question is whether these results admit useful discrete versions, too. The purpose of this paper is to establish discrete versions of various Ingham type theorems by using our approach. They imply the earlier continuous results by a simple limit process.

References

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