ORDER REDUCTION OF DISCRETE-TIME SISO INTERVAL SYSTEMS USING POLE CLUSTERING TECHNIQUE

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Abstract

This paper is aimed at suggesting a new order reduction technique for the reduction of discrete-time SISO interval systems. As order reduction plays a vital role in analysis and design of high order systems, it has been a continuous area of considerable research. Since most of the practical systems are to be modeled as interval systems, necessity of analysis of interval systems has obviously gained importance and research is focused on order reduction techniques for high order interval systems. The proposed technique is based on application of Pole Clustering technique in conjunction with bilinear transformations and it is computationally simple and also stability preserving. The flexibility of the method is shown via a numerical example

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