

Detailed Observations on Numerically Invariant Signatures

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Abstract : Numerically invariant signatures were introduced as a new paradigm of the invariant recognition for visual objects modulo a certain group of transformations. This paper shows that the current formulation suffers from noise and indeterminacy in the resulting joint group-signatures and applies the n-difference technique and the m-mean signature method to minimize their effects. In our experimental results of applying the proposed numerical scheme to generate joint group-invariant signatures, the sensitivity of some parameters such as regularity and mesh resolution used in the algorithm will also be examined. Finally, several interesting observations are made.

Keywords : Euclidean and affine geometry, differential invariant G-signature curves, numerically invariant joint G-signatures, object recognition, noise, indeterminacy

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