MOVING LEAST SQUARE APPROXIMATION USING RADIAL BASIS FUNCTIONS

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ABSTRACT

In this study, we are concerend with the moving least square (MLS) methods which reproduce a finite set of shifts of a Gaussian function of the form $\exp(-\lambda|x|^2)$ with $\lambda > 0$ and $x \in \mathbb{R}^d$. We show that the Gaussian based MLS has the same approximation order as the polynomial based MLS method in some sense. However, for a suitable range of λ, the Gaussian based MLS method provides better accuracy.

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