

MODELING SEISMIC WAVE PROPAGATION IN TURKIYE USING EXPONENTIAL-TYPE SAMPLING KANTOROVICH OPERATORS

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ABSTRACT

In this talk, we focus on modeling seismic wave propagation in Türkiye using sampling-type operators. Seismic wave models are constructed based on the Local Magnitude (ML) scale derived from data provided by the Turkish National Seismic Network (TNSN), together with a third-order Mellin-spline kernel. The performance of the proposed Kantorovich-type operators is evaluated in comparison with Durrmeyer-type operators. Numerical results and graphical analyses indicate that the Kantorovich-type approach provides lower Mean Square Error (MSE) values and demonstrates superior performance, particularly in the filtering and reconstruction of noisy seismic signals.

Keywords Seismic modeling · Local magnitude

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