# A Parallel Version of a Fast Algorithm for Singular Integral Transforms

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The mathematical foundation of an algorithm for fast and accurate evaluation of singular integral transforms was given by Daripa [9,10,12]. By construction, the algorithm offers good parallelization opportunities and a lower computational complexity when compared with methods based on quadrature rules. In this paper we develop a parallel version of the fast algorithm by redefining the inherently sequential recurrences present in the original sequential formulation. The parallel version only utilizes a linear neighbor-to-neighbor communication path, which makes the algorithm very suitable for any distributed memory architecture. Numerical results and theoretical estimates show good parallel scalability of the algorithm.

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