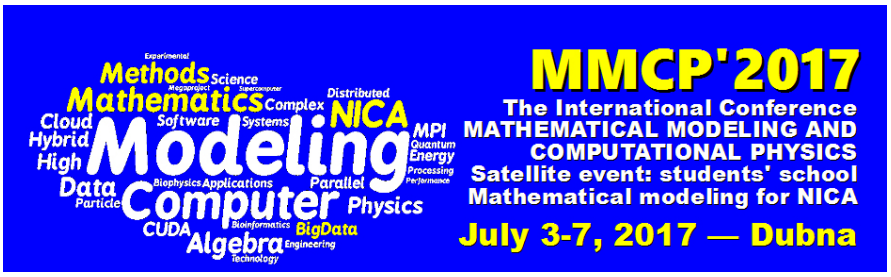

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Algorithm for the orthogonal fast discrete spherical Bessel transform on a uniform grid

Tuesday, 4 July 2017 14:15 (15 minutes)

We propose an algorithm for the orthogonal fast discrete spherical Bessel transform on a uniform grid. Our approach is based upon the spherical Bessel transform factorization into the two subsequent orthogonal transforms, namely the fast Fourier transform and the orthogonal transform founded on the derivatives of the discrete Legendre orthogonal polynomials. The method utility is illustrated by its implementation for the numerical solution of the three-dimensional time-dependent Schroedinger equation.

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