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Barycentric interpolation collocation methods for solving linear and nonlinear high-dimensional Fredholm integral equation

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Research highlights

- 1 Two novel stable methods are proposed for solving high dimensional linear and nonlinear Fredholm integral equations.
- 2 The schemes can improve the common disadvantages of the Lagrange interpolation method. And we prove that the approximate methods are equal to Nystrom method.
- 3 We give rigorous theoretical analysis and convincing numerical examples.
- 4 The two methods are simple and effective for solving high dimensional integral equation and can easily extend to solve engineering problems.

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