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Symmetric trigonometrically-fitted two-step hybrid methods for oscillatory problems

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Highlights

- A general class of trigonometrically-fitted two-step hybrid (TFTSH) methods are proposed.
- General order conditions are derived by introducing the generalized B2-series.
- The symmetry of the new methods is investigated and the symmetric conditions are given.
- A diagonally implicit two-stage symmetric TFTSH method is given.
- Numerical results show the efficiency of our new method.

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