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Kernel reconstruction methods for Doppler broadening — Temperature interpolation by linear combination of reference cross sections at optimally chosen temperatures

Pablo Ducru, Colin Josey, Karia Dibert, Vladimir Sobes, Benoit Forget, Kord Smith

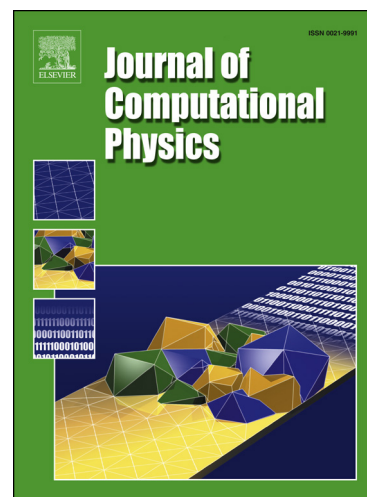
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Highlights

- Isotope-independent methods to perform cross section temperature interpolation are developed.
- A cross section is approximated as a linear combination of reference temperatures cross sections.
- The kernel of the operation is reconstructed as an L2 optimization problem.
- L2 norm is physically justified, yielding formulae for optimal interpolation coefficients.
- Optimal reference temperature grids are developed.
- Kernel reconstruction significantly outperforms previous temperature interpolation methods.

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