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Título: Asymptotic expansions and finite difference schemes for the fractional p -Laplacian.

Abstract: We propose a new asymptotic expansion for the fractional p -Laplacian with precise computations of the errors, based on the idea that the singular part of the integral representation of the fractional p -Laplacian behaves like a local p -Laplacian with a weight correction. We also propose monotone finite difference approximations of the operator with explicit weights, and we obtain the associated error estimates.