

Application Codes

Higher-Level Libraries

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PETSc

Increasing Level of Abstraction

TS (Time Steppers)

Euler	Backward Euler	RK	BDF	SSP	ARKIMEX	Rosenbrock-W	...
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DM (Domain Management)

Distributed Array	Plex (Unstructured)	...
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SNES (Nonlinear Solvers)

Newton Line Search	Newton Trust Region	FAS	NGMRES	NASM	ASPIN	...
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TAO (Optimization)

Newton	Levenberg-Marquardt	...
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KSP (Krylov Subspace Methods)

GMRES	Richardson	CG	CGS	Bi-CGStab	TFQMR	MINRES	GCR	Chebyshev	Pipelined CG	...
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PC (Preconditioners)

Additive Schwarz	Block Jacobi	Jacobi	ICC	ILU	LU	SOR	MG	AMG	BDDC	Shell	...
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Mat (Operators)

Compressed Sparse Row	Block CSR	Symmetric Block CSR	Dense	CUSPARSE	CUSP	ViennaCL	FFT	Shell	...
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Vec (Vectors)

Standard	CUDA	CUSP	ViennaCL	...
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IS (Index Sets)

General	Block	Stride
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