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4.6.3 LAFF Routines (so far)

laff routines encountered so far:

Operation Abbrev.	Definition	Function	Approx. cost	
		`laff_`	flops	memo ps
Vector-vector operations				
Copy (*copy*)	$y := x$	`copy( x, y )`	0	$2n$
Vector scaling (*scal*)	$x := \alpha x$	`scal( alpha, x )`	n	$2n$
Vector scaling (*scal*)	$x := x/\alpha$	`invscal( alpha, x )`	n	$2n$
Scaled addition (*axpy*)	$y := \alpha x + y$	`axpy( alpha, x, y )`	$2n$	$3n$
Dot product (*dot*)	$\alpha := x^T y$	`alpha = dot( x, y )`	$2n$	$2n$

Dot product (*dots*)	$\alpha := x^T y + \alpha$	`dots( x, y, alpha )`	$2n$	$2n$
Length (*norm2*)	$\alpha := \|x\|_2$	`alpha = norm2( x )`	$2n$	n

Matrix-vector operations

General matrix-vector	$y := \alpha A x + \beta y$	`gemv( 'No transpose', alpha, A, x, beta, y )`	$2mn$	mn
multiplication (*gemv*)	$y := \alpha A^T x + \beta y$	`gemv( 'Transpose', alpha, A, x, beta, y )`	$2mn$	mn
Rank-1 update (*ger*)	$A := \alpha x y^T + A$	`ger( alpha, x, y, A )`	$2mn$	mn