

NAG Fortran Library Routine Document

F06FKF

Note: before using this routine, please read the Users' Note for your implementation to check the interpretation of *bold italicised* terms and other implementation-dependent details.

1 Purpose

F06FKF returns, via the function name, the weighted Euclidean norm

$$\sqrt{x^T W x}$$

of the n element real vector x , where $W = \text{diag}(w)$ and w is a vector of weights.

2 Specification

```
double precision FUNCTION F06FKF (N, W, INCW, X, INCX)
  INTEGER                N, INCW, INCX
  double precision      W(*), X(*)
```

3 Description

None.

4 References

None.

5 Parameters

- | | | |
|----|--|--------------|
| 1: | N – INTEGER | <i>Input</i> |
| | <i>On entry:</i> n , the number of elements in x . | |
| 2: | $W(*)$ – <i>double precision</i> array | <i>Input</i> |
| | <i>On entry:</i> w , the vector of weights. | |
| | <i>Constraint:</i> $W(i) \geq 0$, for $i = 1, 2, \dots, N$. | |
| 3: | INCW – INTEGER | <i>Input</i> |
| | <i>On entry:</i> the increment in the subscripts of W between successive elements of w . | |
| 4: | $X(*)$ – <i>double precision</i> array | <i>Input</i> |
| | <i>On entry:</i> the vector x . | |
| 5: | INCX – INTEGER | <i>Input</i> |
| | <i>On entry:</i> the increment in the subscripts of X between successive elements of x . | |

6 Error Indicators and Warnings

None.