NAG Library Routine Document

F06JKF (DZASUM)

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

F06JKF (DZASUM) returns the sum of the absolute values of the real and imaginary parts of the elements in a complex vector.

2 Specification

```
FUNCTION F06JKF (N, X, INCX)
REAL (KIND=nag_wp) F06JKF
INTEGER                 N, INCX
COMPLEX (KIND=nag_wp) X(*)
```

The routine may be called by its BLAS name ***dzasum***.

3 Description

F06JKF (DZASUM) returns the norm

$$|\mathrm{Re}(x_1)| + |\mathrm{Im}(x_1)| + \cdots + |\mathrm{Re}(x_n)| + |\mathrm{Im}(x_n)|$$

of the n-element complex vector x scattered with stride INCX, via the function name.

4 References

Lawson C L, Hanson R J, Kincaid D R and Krogh F T (1979) Basic linear algebra supbrograms for Fortran usage *ACM Trans. Math. Software* **5** 308–325

5 Arguments

1: N – INTEGER *Input*

On entry: n, the number of elements in x.

2: X($*$) – COMPLEX (KIND=nag_wp) array *Input*

Note: the dimension of the array X must be at least $\max(1, 1 + (\mathrm{N} - 1) \times \mathrm{INCX})$.

On entry: the n-element vector x. x_i must be stored in $\mathrm{X}(1 + (i-1) \times \mathrm{INCX})$, for $i = 1, 2, \ldots, \mathrm{N}$.

Intermediate elements of X are not referenced.

3: INCX – INTEGER *Input*

On entry: the increment in the subscripts of X between successive elements of x.

Constraint: $\mathrm{INCX} > 0$.

6 Error Indicators and Warnings

None.

7 Accuracy

Not applicable.

8 Parallelism and Performance

F06JKF (DZASUM) is not threaded in any implementation.

9 Further Comments

None.

10 Example

None.