

# NAG Fortran Library Routine Document

## F06GRF (ZDOTUI)

**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

F06GRF (ZDOTUI) returns, via the function name, the value of the scalar product

$$x^T y$$

where  $x$  is a sparse complex vector stored in compressed form, and  $y$  is a complex vector in full storage form.

### 2 Specification

```
complex*16 FUNCTION F06GRF (NZ, X, INDX, Y)
      INTEGER                NZ, INDX(*)
      complex*16            X(*), Y(*)
```

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

### 3 Description

None.

### 4 References

None.

### 5 Parameters

- |    |  |              |
|----|--|--------------|
| 1: | NZ – INTEGER   | <i>Input</i> |
|    | <i>On entry:</i> the number of elements in the compressed vector $x$ .                         |              |
| 2: | X(*) – <b>complex*16</b> array   | <i>Input</i> |
|    | <i>On entry:</i> the compressed vector $x$ .   |              |
| 3: | INDX(*) – INTEGER array  | <i>Input</i> |
|    | <i>On entry:</i> the indices of the elements in the compressed vector $x$ .                    |              |
| 4: | Y(*) – <b>complex*16</b> array   | <i>Input</i> |
|    | <i>On entry:</i> the vector $y$ . Only elements corresponding to indices in INDX are accessed. |              |

### 6 Error Indicators and Warnings

None.

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