

NAG Fortran Library Routine Document

F06HPF

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

F06HPF applies a complex plane rotation to two n element complex vectors x and y :

$$\begin{pmatrix} x^T \\ y^T \end{pmatrix} \leftarrow \begin{pmatrix} c & s \\ -\bar{s} & \bar{c} \end{pmatrix} \begin{pmatrix} x^T \\ y^T \end{pmatrix}.$$

2 Specification

```
SUBROUTINE F06HPF (N, X, INCX, Y, INCY, C, S)
  INTEGER          N, INCX, INCY
  complex*16      X(*), Y(*), C, S
```

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 and y . | |
| 2: | X(*) – complex*16 array | <i>Input/Output</i> |
| | <i>On entry:</i> the original vector x . | |
| | <i>On exit:</i> the transformed vector x . | |
| 3: | INCX – INTEGER | <i>Input</i> |
| | <i>On entry:</i> the increment in the subscripts of X between successive elements of x . | |
| 4: | Y(*) – complex*16 array | <i>Input/Output</i> |
| | <i>On entry:</i> the original vector y . | |
| | <i>On exit:</i> the transformed vector y . | |
| 5: | INCY – INTEGER | <i>Input</i> |
| | <i>On entry:</i> the increment in the subscripts of Y between successive elements of y . | |
| 6: | C – complex*16 | <i>Input</i> |
| | <i>On entry:</i> the value c , the cosine of the rotation. | |
| 7: | S – complex*16 | <i>Input</i> |
| | <i>On entry:</i> the value s , the sine of the rotation. | |

6 Error Indicators and Warnings

None.
