

NAG 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 *Input*
On entry: n , the number of elements in x and y .
- 2: X(*) – **complex*16** array *Input/Output*
Note: the dimension of the array X must be at least $\max(1, 1 + (N - 1)|\text{INCX}|)$.
On entry: the original vector x .
On exit: the transformed vector x .
- 3: INCX – INTEGER *Input*
On entry: the increment in the subscripts of X between successive elements of x .
- 4: Y(*) – **complex*16** array *Input/Output*
Note: the dimension of the array Y must be at least $\max(1, 1 + (N - 1)|\text{INCY}|)$.
On entry: the original vector y .
On exit: the transformed vector y .
- 5: INCY – INTEGER *Input*
On entry: the increment in the subscripts of Y between successive elements of y .
- 6: C – **complex*16** *Input*
On entry: the value c , the cosine of the rotation.

7: S – *complex*16*

Input

On entry: the value s , the sine of the rotation.

6 Error Indicators and Warnings

None.

7 Accuracy

Not applicable.

8 Further Comments

None.

9 Example

None.
