

SUBROUTINE FORK(LX,CX,SIGNI)

2/15/69

C FAST FOURIER

C LX

C $CX(K) = \text{SQRT}(1/LX) \sum (CX(J) * \text{EXP}(2 * \text{PI} * \text{SIGNI} * I * (J-1) * (K-1) / LX))$

C J=1 FOR K=1,2,...,(LX=2**INTEGER)

COMPLEX CX(LX),CARG,CEXP,CW,CTEMP

J=1

SC=SQRT(1./LX)

DO 30 I=1,LX

IF(I.GT.J) GO TO 10

CTEMP=CX(J)*SC

CX(J)=CX(I)*SC

CX(I)=CTEMP

10 M=LX/2

20 IF(J.LE.M) GO TO 30

J=J-M

M=M/2

IF(M.GE.1) GO TO 20

30 J=J+M

L=1

40 ISTEP=2*L

DO 50 N=1,L

CARG=(0.,1.)*(3.14159265*SIGNI*(M-1))/L

CW=CEXP(CARG)

DO 50 I=M,LX,ISTEP

CTEMP=CW*CX(I+L)

CX(I+L)=CX(I)-CTEMP

50 CX(I)=CX(I)+CTEMP

L=ISTEP

IF(L.LT.LX) GO TO 40

RETURN

END