

C OUTPUT: (R*8) GCFOSA() = SPLINE INTERPOLATED GCF VALUES AT 'TOSA()'

C

C OUTPUT: (L*4) LTRNG() = .TRUE. => OUTPUT SPLINE VALUE WAS
 C INTERPOLATED FOR 'DLOG(TOA())'.
 C .FALSE. => OUTPUT SPLINE VALUE WAS
 C EXTRAPOLATED FOR 'DLOG(TOA())'.
 C (NOTE: 'IOPT = 0').

C

C (I*4) NIN = PARAMETER = MAX. NO. OF INPUT TEMP/GCF
 C PAIRS MUST BE >= 'NV'

C (I*4) NOUT = PARAMETER = MAX. NO. OF 'OUTPUT TEMP/GCF
 C PAIRS MUST BE >= 'MAXT' & 'NPSPL'

C (R*8) EXPCUT = PARAMETER = CUT-OFF IN MAGNITUDE OF
 C EXPONENT IN FORMEING EXPONENTIAL

C

C (I*4) IARR = ARRAY SUBSCRIPT USED FOR TEMP/GCF PAIRS

C (I*4) IOPT = DEFINES THE BOUNDARY DERIVATIVES FOR THE
 C SPLINE ROUTINE 'XXSPLE', SEE 'XXSPLE'.
 C (VALID VALUES = <0, 0, 1, 2, 3, 4)

C

C (R*8) TSTEP = THE SIZE OF STEP BETWEEN 'XOUT()' VALUES FOR
 C GRAPHICAL OUTPUT TEMP/GCF PAIRS TO BE
 C CALCULATED USING SPLINES.

C

C (L*4) LSETX = .TRUE. => SET UP SPLINE PARAMETERS RELATING
 C TO 'XIN' AXIS.
 C .FALSE. => DO NOT SET UP SPLINE PARAMETERS
 C RELATING TO 'XIN' AXIS.
 C (I.E. THEY WERE SET IN A PREVIOUS
 C CALL)
 C (VALUE SET TO .FALSE. BY 'XXSPLE')

C

C (R*8) XIN() = LOG('SCEF()')

C (R*8) YIN() = LOG('GCF()')

C (R*8) XOUT() = LOG(TEMPERATURES AT WHICH SPLINES REQUIRED)

C (R*8) YOUT() = LOG(OUTPUT SPLINE INTERPOLATED GCF VALUES)

C (R*8) DF() = SPLINE INTERPOLATED DERIVATIVES

C

C (L*4) LDUMP() = .TRUE. => OUTPUT SPLINE VALUE INTRPOLATED
 C FOR 'YOUT()'.
 C .FALSE. => OUTPUT SPLINE VALUE EXTRAPOLATED
 C FOR 'YOUT()'.
 C (NOTE: USED AS A DUMMY ARGUMENT.
 C ALL VALUES WILL BE TRUE.)

C NOTE:

C ROUTINES:

ROUTINE	SOURCE	BRIEF DESCRIPTION
XXSPLE	ADAS	SPLINE SUBROUTINE (EXTENDED DIAGNOSTICS)
R8FUN1	ADAS	REAL*8 FUNCTION: (X -> X)

C AUTHOR: H. P. SUMMERS, JET
C K1/1/57
C JET EXT. 4941
C
C DATE: 19/04/94
C
C VERSION : 1.1
C DATE : 25-01-2001
C MODIFIED : Martin O'Mullane
C - Ported to unix from JETSHP.ADASXX50.FORT
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C

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INTEGER	MAXT,	NPSPL,	NV
LOGICAL	LOSEL,	LTRNG (MAXT)	
REAL*8	GCF (NV) ,	GCFOA (MAXT) ,	GCFOA (NPSPL)
REAL*8	SCEF (NV) ,	TOA (MAXT) ,	TOSA (NPSPL)