

ADAS Subroutine daspln

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SUBROUTINE DASPLN( NTDIM , NDTIN ,
&                 ITA    , ITVAL  ,
&                 TFILE  , TEVA   ,
&                 QDRIN  , QDROUT ,
&                 LTRNG
&                 )
```

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C-----
C
C ***** FORTRAN77 SUBROUTINE: B1SPLN *****
C
C PURPOSE:
C     1) PERFORMS CUBIC SPLINE ON LOG(TEMPERATURE) VERSUS LOG(QDRIN)
C        INPUT DATA. ('TFILE' VERSUS 'QDRIN' , ITA DATA PAIRS)
C
C     2) INTERPOLATES 'ITVAL' QDRIN VALUES USING ABOVE SPLINES AT
C        TEMPERATURES READ IN FROM ISPF PANELS FOR TABULAR OUTPUT.
C        (ANY TEMPERATURE VALUES WHICH REQUIRED EXTRAPOLATION TO
C         TAKE PLACE ARE SET TO ZERO).
C         - THIS STEP ONLY TAKES PLACE IF 'LOSEL=.TRUE.' -
C
C     3) INTERPOLATES 'ITVAL' QDRIN VALUES USING ABOVE SPLINES AT
C        TEMPERATURES EQUI-DISTANCE ON RANGE OF LOG(TEMPERATURES)
C        STORED IN INPUT 'TFILE' ARRAY.
C
C CALLING PROGRAM: ADAS201
C
C SUBROUTINE:
C
C INPUT : (I*4)  NTDIM    = MAX. NO. OF TEMPERATURES ALLOWED IN
C                DATA SET
C INPUT : (I*4)  NDTIN    = MAX. NO. OF USER TEMPERATURES ALLOWED
C INPUT : (I*4)  ITA      = INPUT DATA FILE: NUMBER OF DR/TEMPERATURE
C                PAIRS READ FOR THE TRANSITION BEING ASSESSED
C INPUT : (I*4)  ITVAL    = NUMBER OF SPLINE INTERPOLATED QDRIN/TEMP.
C                REQUIRED FOR GRAPHICAL DISPLAY.
C
C INPUT : (I*4)  TFILE()  = INPUT DATA FILE: TEMPERATURES
C INPUT : (I*4)  TEVA()   = ISPF PANEL ENTERED TEMPERATURES
C
C INPUT : (R*8)  QDRIN()  = INPUT DATA FILE: SELECTED TRANSITION -
C                QDRIN VALUES AT 'TFILE()'.
C OUTPUT: (I*4)  QDROUT() = SPLINE INTERPOLATED QDRIN VALUES AT 'TEVA()'
C                (EXTRAPOLATED VALUES = 0.0).
C
C OUTPUT: (L*4)  LTRNG()  = .TRUE. => OUTPUT SPLINE VALUE WAS
C                INTERPOLATED FOR 'DLOG(TEVA())'.
C                .FALSE. => OUTPUT SPLINE VALUE WAS
C                EXTRAPOLATED FOR 'DLOG(TEVA())'.
C                (NOTE: 'YOUT(=0' AS 'IOPT < 0').
C
C     (I*4)  NIN        = PARAMETER = MAX. NO. OF INPUT TEMP/QDRIN
```


REAL*8

TEVA (NDTIN) , TFILE (NTDIM)