ADAS Subroutine nfitsp

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       SUBROUTINE NFITSP(X,XA,N,YAA,Y,DY,I0,C1,C2,C3,C4,ISW)
       IMPLICIT REAL*8(A-H,O-Z)
C-----------------------------------------------------------------------
C  PURPOSE: PERFORM SPLINE INTERPOLATION
C
C  INPUT
C      X       = REQUIRED X-VALUE
C      XA(I)   = X-VALUES
C      N       = NUMBER OF VALUES
C      YAA(I)  = Y-VALUES (POSSIBLY STORED AS MULTIPLE SETS)
C      I0      = STARTING INDEX(-1) IN YAA ARRAY OF REQUIRED INPUT SET
C      C1(I,J) = 1ST SPLINE COEFFICIENT PRECURSOR
C      C2(I,J) = 2ND SPLINE COEFFICIENT PRECURSOR
C      C3(I,J) = 3RD SPLINE COEFFICIENT PRECURSOR
C      C4(I,J) = 4TH SPLINE COEFFICIENT PRECURSOR
C      ISW     = .LE.0  ORDINARY     SPLINE INTERPOLATION
C              = .GT.0  LOGARITHMIC  SPLINE INTERPOLATION
C  OUTPUT
C      Y       = RETURNED Y-VALUE
C      DY      = RETURNED DERIVATIVE
C
C
C  *********                                          **************
C-----------------------------------------------------------------------
C IDL-UNIX CONVERSION:
C
C  VERSION: 1.1                                          DATE: 01/10/96
C  MODIFIED:  WILLIAM OSBORN
C           - FIRST WRITTEN. NO CHANGES.
C
C  VERSION: 1.2                                          DATE: 15/05/07
C  MODIFIED:  Allan Whiteford
C           - Updated comments as part of subroutine
C             documentation production.
C
C-----------------------------------------------------------------------
C-----------------------------------------------------------------------
      INTEGER             I0,           ISW,          N
      REAL*8              C1(10,9),     C2(10,9),     C3(10,9)
      REAL*8              C4(10,9),     DY,           X,           XA(10)
      REAL*8              Y,            YAA(10)
```