

ADAS Subroutine h9trni

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SUBROUTINE H9TRNI ( NDLEV , NDTRN , NDTEM , ndmet ,
& IL , ISTRN , NV ,
& IA , WA , XJA ,
& I1A , I2A , AVAL ,
& SCOM , zpla , bwnoa , ipla ,
& IUPPER , ILOWER ,
& LUPPER , LLOWER ,
& WUPPER , WLOWER ,
& EUPPER , ELOWER ,
& AA , GAMMA ,
& zeta , ip
& )

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C
C ***** FORTRAN77 SUBROUTINE: H9TRNI *****
C
C PURPOSE: TO SET UP SELECTED IONISATION TRANSITION PARAMETERS
C
C CALLING PROGRAM: ADAS809
C
C SUBROUTINE:
C
C INPUT : (I*4) NDLEV = MAXIMUM NUMBER OF INDEX LEVELS
C INPUT : (I*4) NDTRN = MAXIMUM NUMBER OF TRANSITIONS
C INPUT : (I*4) NDTEM = MAXIMUM NUMBER OF INPUT FILE TEMPERATURES
C
C INPUT : (I*4) IL = NUMBER OF INDEX LEVELS
C INPUT : (I*4) ISTRN = SELECTED TRANSITION INDEX.
C INPUT : (I*4) NV = INPUT DATA FILE: NUMBER OF GAMMA/TEMPERATURE
C PAIRS FOR THE SELECTED TRANSITION.
C
C INPUT : (I*4) IA () = LEVEL INDEX NUMBER ARRAY
C INPUT : (R*8) WA () = LEVEL ENERGIES RELATIVE TO LEVEL 1 (CM-1)
C INPUT : (R*8) XJA () = QUANTUM NUMBER (J-VALUE) FOR LEVEL
C NOTE: (2*XJA)+1 = STATISTICAL WEIGHT
C
C INPUT : (I*4) I1A () = LOWER LEVEL INDEX FOR ELECTRON IMPACT
C TRANSITION
C INPUT : (I*4) I2A () = UPPER LEVEL INDEX FOR ELECTRON IMPACT
C TRANSITION
C INPUT : (I*4) AVAL () = A-VALUE FOR ELECTRON IMPACT TRANSITION
C INPUT : (I*4) SCOM (, ) = GAMMA VALUES FOR ELECTRON IMPACT
C (DE-)EXCITATION
C 1st DIMENSION: TEMPERATURE INDEX
C 2nd DIMENSION: TRANSITION INDEX
C OUTPUT: (I*4) IUPPER = SELECTED TRANSITION: UPPER LEVEL ARRAY INDEX
C OUTPUT: (I*4) ILOWER = SELECTED TRANSITION: LOWER LEVEL ARRAY INDEX
C
C OUTPUT: (I*4) LUPPER = SELECTED TRANSITION: UPPER INDEX LEVEL
C OUTPUT: (I*4) LLOWER = SELECTED TRANSITION: LOWER INDEX LEVEL
C

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C OUTPUT: (R*8) WUPPER = SELECTED TRANSITION: UPPER LEVEL STAT. WT.
 C OUTPUT: (R*8) WLOWER = SELECTED TRANSITION: LOWER LEVEL STAR. WT.
 C (NOTE: STAT. WT. = STATISTICAL WEIGHT)
 C
 C OUTPUT: (R*8) EUPPER = SELECTED TRANSITION: UPPER ENERGY LEVEL
 C RELATIVE TO INDEX LEVEL 1. (CM-1)
 C OUTPUT: (R*8) ELOWER = SELECTED TRANSITION: LOWER ENERGY LEVEL
 C RELATIVE TO INDEX LEVEL 1. (CM-1)
 C OUTPUT: (R*8) AA = SELECTED TRANSITION A-VALUE (SEC-1)
 C OUTPUT: (R*8) GAMMAUP () = INPUT DATA FILE: SELECTED EXCITATION -
 C GAMMAUP VALUE AT 'TEMP ()'
 C OUTPUT: (R*8) GAMMADN () = INPUT DATA FILE: SELECTED DE-EXCITATION -
 C GAMMADN VALUE AT 'TEMP ()'
 C
 C (I*4) I = GENERAL USE.

C ROUTINES: NONE

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 C EXT. 4196

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C UPDATE: Paul Bryans
 C 24/11/04

C Added extra parameters needed for ionisation transition

INTEGER	I1A (NDTRN) ,	I2A (NDTRN) ,	IA (NDLEV) ,	IL
INTEGER	ILOWER,	IPLA (NDMET, NDLEV) ,		ISTRN
INTEGER	IUPPER,	LLOWER,	LUPPER,	NDLEV
INTEGER	NDMET,	NDTEM,	NDTRN,	NV
REAL*8	AA,	AVAL (NDTRN) ,	BWNOA (NDMET)	
REAL*8	ELOWER,	EUPPER,	GAMMA (NDTEM)	
REAL*8	IP,	SCOM (NDTEM, NDTRN)		
REAL*8	WA (NDLEV) ,	WLOWER,	WUPPER	
REAL*8	XJA (NDLEV) ,	ZETA,	ZPLA (NDMET, NDLEV)	