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C OUTPUT: (R*8) TPL0 = ZERO DENSITY LINE POWER ARISING FROM EXCI-
C TATION ONLY FROM THE GROUND LEVEL FOR A
C GIVEN TEMPERATURE 'TEMP'.
C (UNITS: ERGS CM3 SEC-1).
C OUTPUT: (R*8) TPLBA() = HIGH N PROJECTED POWER BASED ON EXCITATIONS
C FROM A PARTICULAR METASTABLE TO LEVELS
C 'IPROJ' UPWARDS FOR A GIVEN TEMPERATURE
C 'TEMP'.
C (UNITS: ERGS CM3 SEC-1)
C DIMENSION: METASTABLE INDEX
C
C (R*8) TK2ATE = PARAMETER = EQUATION CONSTANT = 1.5789D+05
C (R*8) R2LOSS = PARAMETER = EQUATION CONSTANT = 2.17958D-11
C (CONVERTS RYDBERGS/SEC TO ERGS/SEC)
C
C (I*4) LLOWER = SELECTED ELECTRON IMPACT TRANSITION:
C LOWER ENERGY LEVEL INDEX
C (I*4) LUPPER = SELECTED ELECTRON IMPACT TRANSITION:
C UPPER ENERGY LEVEL INDEX
C (I*4) IM = METASTABLE LEVEL ARRAY INDEX
C (I*4) IC = TRANSITION ARRAY INDEX
C
C (R*8) ATE = EQUATION PARAMETER = 'TK2ATE'/'TEMP'
C (R*8) Z1 = 'IZ1'
C (R*8) Z2ATE = 'Z1' * 'Z1' * 'ATE'
C (R*8) Z2ATE2 = 1.0 / ('Z1' * 'Z1' * 'ATE')
C (R*8) Z2ATEX = SQRT( 1 / ('Z1' * 'Z1' * 'ATE' * 'ATE' ) )
C (R*8) V = 'Z1' / SQRT('XIA()')
C (R*8) VP = 'V' / (1+'V')
C (R*8) ATEL = 'ATE' * 'XIA(LLOWER)'
C (R*8) ATEU = 'ATE' * 'XIA(LUPPER)'
C (R*8) ATEUP = 'ATEU' * 'VP' * 'VP'
C (R*8) PLB1 = USED IN CALCULATING 'PLB'
C (R*8) PLB2 = USED IN CALCULATING 'PLB'
C (R*8) PLB3 = USED IN CALCULATING 'PLB'
C (R*8) PLB = HIGH N PROJECTED POWER BASED ON EXCITATIONS
C FROM A PARTICULAR METASTABLE LEVEL 'LLOWER'
C TO THE LEVEL 'LUPPER' FOR TEMPERATURE
C 'TEMP'.
C (UNITS: ERGS CM3 SEC-1)
C
C ROUTINES: NONE
C
C
C AUTHOR: PAUL E. BRIDEN (TESSELLA SUPPORT SERVICES PLC)
C K1/0/81
C JET EXT. 4569
C
C DATE: 09/10/90
C
C UPDATE: 24/01/91 - PE BRIDEN: SERIOUS ERROR-'TPLBA()' WAS INCORRECTLY
C DECLARED AS INTEGER - IT MUST BE REAL*8
C - THEREFORE 'TPLBA()' NOW REAL*8 -

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C
C UNIX-IDL PORT:
C
C AUTHOR: WILLIAM OSBORN (TESSELLA SUPPORT SERVICES PLC)
C
C DATE: 06/06/96
C
C VERSION: 1.1 DATE:06/06/96
C MODIFIED: WILLIAM OSBORN
C - FIRST VERSION

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INTEGER	ICNTE,	IE1A(ICNTE),	IE2A(ICNTE),	IL
INTEGER	IMETR(NMET),	I PROJ,	IT,	IZ1
INTEGER	NDTEM,	NMET		
REAL*8	ER(IL),	EXCRE(NDTEM, ICNTE),		TEMP
REAL*8	TPL0,	TPLBA(NMET),	XIA(IL)	