

C (R*8) ELOWER = SELECTED TRANSITION - LOWER ENERGY
 C LEVEL RELATIVE TO INDEX LEVEL 1 (Rydbergs)
 C (R*8) WUPPER = SELECTED TRANSITION - UPPER ENERGY LEVEL
 C STATISTICAL WEIGHT.
 C (R*8) WLOWER = SELECTED TRANSITION - LOWER ENERGY LEVEL
 C STATISTICAL WEIGHT.
 C (R*8) SUPPER = 1/(UPPER LEVEL STATISTICAL WEIGHT)
 C (R*8) SLOWER = 1/(LOWER LEVEL STATISTICAL WEIGHT)
 C (R*8) RYDDIF = NEGATIVE TRANSITION ENERGY IN RYDBERGS
 C (NOTE: 1 Rydberg = 1.09737E5 cm-1)
 C
 C (R*8) ATE() = EQUATION PARAMETER: DIMENSION - TEMPERATURE
 C (R*8) GVAL() = EQUATION PARAMETER (FOR UNIT GAMMA VALUE)
 C DIMENSION - TEMPERATURE

C ROUTINES: NONE

C NOTES:

C EQUATIONS USED -

$$\text{RATE1} = \frac{2.17161\text{E-}8 \times \text{GAMMA} \times \text{SQRT}(157890 / \text{TEMP})}{\text{WLOWER} \times \text{EXP}((\text{EUPPER}-\text{ELOWER}) * (157890 / \text{TEMP}))}$$

$$\text{DRATE1} = \frac{2.17161\text{E-}8 \times \text{GAMMA} \times \text{SQRT}(157890 / \text{TEMP})}{\text{WUPPER}}$$

C NOTE: OUTPUT VALUES ARE FOR 'GAMMA=1'

C AUTHOR: PAUL E. BRIDEN (TESSELLA SUPPORT SERVICES PLC)
 C K1/0/81
 C JET EXT. 4569

C DATE: 18/09/90

INTEGER	I1A (NDTRN),	I2A (NDTRN),	ICNT,	MAXT
INTEGER	NDLEV,	NDTEM,	NDTRN	
REAL*8	DRATE1 (NDTEM, NDTRN),	ER (NDLEV)		
REAL*8	RATE1 (NDTEM, NDTRN),	TEMP (NDTEM)		
REAL*8	XJA (NDLEV)			