

ADAS Subroutine rqinew

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FUNCTION RQINEW(Z,N,ZIMP,AMSIMP,TP,VDISP)
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```
IMPLICIT REAL*8 (A-H,O-Z)
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```
C ***** FORTRAN77 FUNCTION: RQINEW *****
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C PURPOSE: EVALUATES ION IMPACT IONISATION RATE COEFFICIENTS FOLLOWING  
C THE EXPRESSIONS OF PERCIVAL AND RICHARDS.
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C (ALTERNATIVE TO RQIONPR WITH BETTER MAXWELL AVERAGING BUT SLOWER)
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C A CONSTANT SPEED SHIFT MAY BE GIVEN TO THE COLLISION OVER AND ABOVE  
C THE THERMAL SPEEDS
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C INPUT
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C Z = TARGET ION CHARGE+1
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C N = PRINCIPAL QUANTUM NUMBER OF INITIAL TARGET LEVEL
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C ZIMP = PROJECTILE CHARGE
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C AMSIMP = PROJECTILE MASS (PROTON UNITS)
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C TP = ION TEMPERATURE (K) (EITHER TARGET OR PROJECTILE)
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C VDISP = CONSTANT MEAN SPEED SHIFT FOR THE COLLISION  
C (DESCRIBES BEAM PLASMA SITUATIONS)
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C OUTPUT
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```
C RQINEW = RATE COEFFICIENT (CM**3 SEC-1)
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C ***** H.P. SUMMERS, JET 3 JULY 1991 *****
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C NOTES: THIS ROUTINE IS NOT YET PROPERLY ANNOTATED
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C UNIX-IDL PORT:
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```
C VERSION: 1.1 DATE: 16-1-96
```

```
C MODIFIED: TIM HAMMOND (TESSELLA SUPPORT SERVICES PLC)
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```
C - FIRST VERSION
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C
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```
C VERSION: 1.2 DATE: 08-02-96
```

```
C MODIFIED: TIM HAMMOND (TESSELLA SUPPORT SERVICES PLC)
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C - REMOVED SUPERFLUOUS VARIABLES
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C VERSION: 1.3 DATE: 16-05-07
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```
C MODIFIED: Allan Whiteford
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```
C - Updated comments as part of subroutine documentation  
C procedure.
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INTEGER	N			
REAL*8	AMSIMP,	TP,	VDISP,	Z
REAL*8	ZIMP			