

NJOY/LEHMANN-01 - 24 August 1992

MODIFICATIONS TO NJOY-91.13 for IBM-3090VF VM/XA

by

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Updates of the Institut fuer Raumflug- und Reaktortechnik
of the Technical University in Braunschweig (FRG) for NJOY91.13.

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File NJ91BS1.UPN contains corrections for call of the subroutines

- reserv
- releas
and - findex.

The problem is that sometimes the first argument in the calls is a string with a lenght not equal to 4. But in the subroutines the first argument is defined as a character*4 variable. That causes undefined characters in the subroutine! The updates '*ident ...bs1' change every string in such a call to a character*4 variable.

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File DOUBLE.UPN contains changes of the Modules NJOY, RECONR, BROADR, UNRESR, HEATR, THERMR, GROUPE, GAMINR, ERRORR, MODER, DTFR and MATXSR, to make them run with double precision. This is necessary on short word machines like the IBM's.

The different idents are:

- * 'ident ..bs2' changes the declaration of variables to REAL*8.
- * 'ident ..bs3' changes the values to double precision, IFIX() to INT(), ALOG() to LOG(), ALOG10() to LOG10() and variable INT to variable IINT.
- * 'ident ..bs4' change some commons, to work with REAL*8 variables (REAL*8 variables need 8 bytes and INTEGER variables need only 4 bytes. That's why COMMON's are in trouble)
- * 'ident rebs5' changes a holerith-variable BLANK to a REAL*8 blank.
- * 'ident ..bs6' changes some commons, to make them efficiently aligned.

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File DIFFRNT.UPN contains some different changes:

- * 'ident njbs5' allows to read in uppercase 'E' from input-file too.
- * 'ident njsl3' function lenr() does not work right on IBM 3090, but the FORTRAN standard-function is okay.
- * 'ident grbs5' removes some unidentified underflows in SUBROUTINE PANEL and changes the dimensions commands 'C(1)' to 'C(6)' to avoid compiler-messages.
- * 'ident dtbs5' corrects strings in calls and subroutines.

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*These updates are available upon request
(they were put to B. McFulene already)*

CE

JIFFRNT. UPN

```
*ident njbs5
*/ read uppercase 'E' from input deck too.
*d njoy.448
   integer a,hn,zero,h,e,ee,star,plus,deci,char,slash,r,comm
*d njoy.450
   data plus/1h+/, minus/1h-/, deci/1h./, blank/1h /,ee/1hE/
*d njoy.607
   340 if (char.ne.e.and.char.ne.ee.and.char.ne.plus.and.char.ne.minus)
       & go to 350
*d njoy.610
   if (char.eq.e .or. char .eq. ee) go to 120
*ident njsl3
*/ Length of strings is not correkt. Use FORTRAN-77 function.
*d njoy.418,425

   lenr = len(mess)

   if (mess .eq. ' ') lenr = 0

*ident grbs5
*/ No more Underflow-Messages in PANEL
*d groupr.2624
   170 if ( abs(ehi-elow) .lt. 1.0d-20) then
       write(strng1,*) 'underflow-error at energy :',ehi
       call mess('panel tubs',strng1,' ')
       t1=0.0d0
   else
       t1=(eq-elow)/(ehi-elow)
   end if
*/ Change c..(1) to c..(6) to avoid compiler informations
*d groupr.4264
   dimension cnow(6),term(1),p(7)
*d groupr.4409
   dimension cnow(6),p(8)
*d groupr.4671
   dimension term(n1),clo(6),chi(6)
*d groupr.7430
   dimension c(6)
*ident dtfr5
/* correct strings in calls and subroutines
*d dtfr.885
   character nchar(5)*1,labelx*11,labely*13,labelz*20,l1*8,l*1
*i dtfr.1292
   character*(*) labelx, labely, labelz
*i dtfr.1729
   character*(*) title, labelx, labely
```

Unreachable code errors for NJOY91.13

HEATR.2492 : Variable k86 is always equal to 1. It seems to be a flag.
THERMR.539 : nl always less than nlmax.
GROUPT.4787 : There is no 'go to 270'.
ERRORR.940 : There is no 'go to 920'.
COVR.377 : isshade is always equal to 0.
MATXSR.1527 : There is no 'go to 134'.
ACER.851 : There is no 'go to 400'.
ACER.6684 : There is no 'go to 150'.
ACER.7761 : nq is always equal to 10. nq might be changed to iq.
POWR.618 : jopt is always equal to 0. It seems to be a flag.??
POWR.626
WIMSR.137 : ign is always equal to 0. It seems to be a flag.??