Modification for the non-linear Compton scattering

2020.12.27 By Tim Barklow (SLAC)

NEW FILE:

src/lsrqedbh.f Linear QED Bethe-Heitler e- gamma_laser -> e- e+ e- using virtual photons

MODIFIED FILES:

src/include/nlbwcm.h PARAMETER (MMY=200,MMPH=10,MMXI=200,MMQ=410)
src/include/nllsrcm.h PARAMETER (MW=197000000)
src/include/nlcpcm.h PARAMETER (MMY=200,MMPhi=100,MMPH=10,MMXI=200,MMLM=200)
src/include/nlbwcm.h PARAMETER (MMY=200,MMPH=10,MMXI=200,MMQ=410)
src/include/lasrcm.h add ..BH.. variables for lsrqedbh.f

src/module/evlmod.f INTEGER, PARAMETER:: MLOAD=5000

src/Makefile add obj/readmod.o & obj/lsrqedbh.o
src/vphgen.f fix divide by zero bug
src/addone.f add additional print in case of out-of-bound array index
src/bmfile.f print irtn1 in case of error return from addtstp or addone
src/nlbwst.f add additional print in case of out-of-bound array index
src/nlcpst.f add additional print in case of out-of-bound array index
src/rdlasr.f fix print problems for keV laser photon energies
src/initlz.f mods to support lsrqedbh.f
src/rdclr.f mods to support lsrqedbh.f
src/endpsh.f add CALL LSRQEDBH(T1,IRTN)
src/rdlqed.f mods to support lsrqedbh.f
src/vphbfl.f mods to support lsrqedbh.f
src/plhist.f disable 2nd largest bin feature

src/evufnchar.f gfortran compilation: WRITE(TEXT,'(I)') -> WRITE(TEXT,'(I12)')
src/transport.f gfortran compilation: WRITE(MAGNAM,'(I)') -> WRITE(MAGNAM,'(I12)')
src/lsrrdfl.f gfortran compilation issue with CHARACTER*1 EOR/Z'0A'/,EOF/Z'00'/
src/deint.f gfortran compilation LCONV -> LCONV(NF)

2021.4.22 By Toshiaki Tauchi (KEK)
(1) In this case, the logarithm is used for x > 10.0 with xmax/xmin = 1.0D5.
src/nlcpgn00.f_zn_v2
src/nlcpt0.f_zn_v2
(2) for a case of logarithmic vertical scale
src/lumpit0.f_08apr2021

2021.3.11 By Toshiaki Tauchi (KEK)
to generate the non-linear Compton scattering by using the z_n variable which works even with NY=20. Actually following three routines are modified, which are
src/nlcpst0.f
src/nlcpgen00.f
src/nlcpcm.h