!Parameter file for program exsim\_dmb

Runs for comparing EXSIM and SMSIM

!rho, beta, prtitn, radpat, fs:

3.220 4.560 0.707 0.630 2.000

!gsprd: r\_ref, nsegs, (rlow(i), a\_s, b\_s, m\_s(i)) (Usually set

!r\_ref = 1.0 km)

1.0

1

1.0 -1.0 0.0 5.5

!q: fr1, Qr1, s1, ft1, ft2, fr2, qr2, s2, c\_q

0.4 191.9 -0.095 1 1 2 334.50 0.988 4.0

!path duration (ndur\_hinges,

! (rdur(i), dur(i), i = 1, ndur\_hinges), durslope)

2

0.0 0.0

100 49.04

0.1563

!site diminution parameters: fmax, kappa\_0, dkappadmag, amagkref

! (NOTE: fmax=0.0 or kappa\_0=0.0 => fmax or kappa are not used. I included this

! to prevent the inadvertent use of both fmax and kappa to control the diminution

! of high-frequency motion (it would be very unusual to use both parameters

! together. Also note that if do not want to use kappa, dkappadmag must also

! be set to 0.0).

0.00000 8.400000E-02 0.0 5.5

!low-cut filter corner, nslope (0 ==> no filter)

5.000000E-02 8

!window params: iwind(0=box,1=exp), taper(<1), eps\_w, eta\_w, f\_tb2te, f\_te\_xtnd

! (see SMSIM manual for the meaning of the parameters)

! As of 11/25/11, I will not use the shape parameters, using the default

! parameters in the call to wind2 instead. The only parameters I use as of this

! date are iwind and taper.

! BUT: placeholders must be included for eps\_w, eta\_w, f\_tb2te, f\_te\_xtnd, because some day

! they may be used.

1 0.05 0.5 0.05 2.0 1.0

!timing stuff: dur\_fctr, dt, tshift, seed, nsims, iran\_type (0=normal;1=uniform)

! NOTE: these are the SMSIM parameters, but for now (11/25/11) I will read and use

! the current EXSIM parameters, as given in the next uncommented line.

! The reason not to change to the SMSIM parameters is that I do not have the time to

! make sure that the program is revised correctly. The tpadl and tpadt params do not

! automatically account for magnitude, and if the values are not changed each time amag

! is changed they may be unnecessarily long for small events and too short for large

! events. It is up to the user to specify adequate values (these values are adjusted

! to appropriate sizes automatically in SMSIM).

! 1.3 0.002 7.0 123.0 100 0

!tpadl, tpadt, dt, seed, nsims

5.0 2.0 0.002 309.0 40

!

!-------------------------------------------------------------------------

! \*\*\*\*\*\*\* Input parameters specific to EXSIM \*\*\*\*\*\*\*

!-------------------------------------------------------------------------

!

! SOURCE PARAMETERS:

!

!MW, Stress

5.500000 130.000000

!lat and lon of upper edge of fault

36.267399 26.682301

!strike,dip, depth of fault

75.000000 81.000000 126.000000

!fault type (S=strikeslip; R=reverse; N=normal; U=undifferentiated)

! (Only used if Wells and Coppersmith is used to obtain FL and FW).

S

!fault length and width, dl, dw, stress\_ref

!Note: Force program to use Wells and Coppersmith (WC) for FL and/or FW if

! either entry = 0.0.

! If Wells and Coppersmith are used to obtain FL and/or FW, the WC values are

! modified to account for the scaling implied by differences in the stress

! specified above and a stress that is assumed to be valid for the generic WC

! relations; this stress is stress\_ref. The value of 70 bars is an educated

! guess for stress\_ref, but it is not based on a quantitative analysis.

! The WC values of FL and/or FW are multiplied by the factor

! (stress\_ref/stress)^(1/3).

! Note that four entries on the following line are needed as placeholders,

! even if not used)

6.680 6.680 1.580 1.580 130.000 !

!vrup/beta

0.8

!hypo location in along fault and down dip distance from the fault

!reference point (an upper corner)(-1.0, -1.0 for a random location);

!number of iterations over hypocenter (need an entry, but only used if

!either of the first two values are -1.0, indicating a random location)

-1.0 -1.0 10

!Enter type of risetime (1=original, 2=1/f0)

2

!DynamicFlag (0=no), PulsingPercent

1 50.0

!iflagscalefactor (1=vel^2; 2=acc^2; 3=asymptotic acc^2 (dmb))

2

!islipweight = -1 -> unity slip for all subfaults,

!islipweight = 0 -> specify slips read from text file,

!islipweight = 1 -> random weights

-1

! Text file containing matrix of slip weights (need a placeholder

! even if do not assign the slip weights

slip\_weights.txt

!deterministic flag,gama,nu,t0, impulse peak

0 1.0 90.0 4.0 10.

!

!-------------------------------------------------------------------------

! PARAMETERS RELATED TO PATH AND SITE:

!-------------------------------------------------------------------------

!

!Name of crustal amplification file:

MYKO.dat # (for station MYKO) (ZKR.dat # for station ZKR)

!– They correspond to Table 3 of the manuscript

!Name of site amplification file:

BGR\_N.txt.mod # (See Table S1)

!

!-------------------------------------------------------------------------

! PARAMETERS RELATED TO COMPUTATIONS OF AVERAGES:

!-------------------------------------------------------------------------

!iflagfas\_avg (1=arithmetic, 2=geometric, 3=rms: USE 3!)

3

!iflagpsa\_avg\_over\_sims (1=arithmetic: USE 1!, 2=geometric, 3=rms)

! NOTE on 22 November 2011. I used to advise using the geometric mean, but in

! the course of working on a paper with Eric Thompson on RV calculations in SMSIM

! I found that my TD calculations have used geoemtric averages until 03 August 1994,

! when I switched to arithmetic averages, apparently as a result of a recommendation

! by Bill Joyner.

1

!iflagpsa\_avg\_over\_hypos (1=arithmetic, 2=geometric, 3=rms)

! The program first computes the average ground-motion intensity measure over the number

! of simulations for a given hypocenter, and then computes an average of these over the

! hypocenters. There might some justification to use a geometric mean for this.

2

!-------------------------------------------------------------------------

! PARAMETERS RELATED TO THE OUTPUT:

!-------------------------------------------------------------------------

!Write acc, psa, husid files for each site?

Y

!Output file names stem:

130.0b\_0.084k\_126.0MYKO ( # 130.0b\_0.084k\_126.0ZKR for station ZKR)

! %damping of response spectra

5.0

!# of f and Min and Max F for response spectraut

100 0.01 99.

!no. of frequencies for summary output (10 max):

4

!frequency (-1.0, 99.0 for pgv, pga):

-1.0 99.0 0.5 5.0

!-------------------------------------------------------------------------

! PARAMETERS RELATED TO THE SITES AT WHICH MOTIONS ARE COMPUTED:

! Put this last for convenience in editing the params file. For example, the site list

! can be very long, but by inserting "stop" in the list it is easy to select a small subset

! of site at which motions will be computed.

!-------------------------------------------------------------------------

!Site coord flag (1=lat,long; 2=R,Az; 3=N,E)

1

!If "Y" below and strike = 0.0:

! if site coord flag = 2, move origin of the radial line to the midpoint of

! the top edge of the fault

! if site coord flag = 3 and siteLocation(1) = 0, redefine

! siteLocation(1) = 0 to be the midpoint of the

! top edge of the fault (so that the sites will be

! along a line normal to the midpoint)

! if site coord flag = 3 and siteLocation(2) = 0, redefine

! siteLocation(1) = 0 to be the far end of the fault,

! so that the sites are along a line along the

! strike of the fault

N

!Coordinates of each site (siteLocation(1), siteLocation(2)):

37.482201 25.384399 # For station MYKO (35.11470 26.216999 # For station ZKR)

Stop