Modified by Oluwaseun Idowu Fadugba (7/11/2019)

1.  Shuffled random seed generator at the start of the code.

2.  Number of times OADC\_3D splits the thickest faults

3.  Simulation tag to copy all generated files and figures to a folder. Delete

    folder with the same simulation tag i.e., previous runs with the same tag.

4.  Editted randfaults.m

5.  Edited read\_catalog.m, datplot.m to included simul\_tag, and save figures with

    the tag as the filename. He also included figure title and adjusted fontsize.

6.  Added maximum number of iteration in faultcluster.m in case the iteration is endless.

7.  Initialized xt, yt and zt variables in pcluster.m because it later becomes

    inconsistent with the total number of earthquakes in the catalog.

8.  Changed the lambda3(k)=sqrt(12.\*D(1,1)) to lambda3(k)=sqrt(D(1,1)) in recalcfault.m

9.  OADC\_3D will split the thickest fault N\_loop times to find the

    configuration with the best fit.

10. OADC\_3D now saves all variables to file in .mat format.

11. OADC\_3D now prints the best 6 fault geometries, and print them to file.

12. Added FM\_file, dist2FM\_threshold, strike and dip, and some temporary variables

    associated with fault split to global variables in OADC\_3D.m

13. Modified display in OADC\_3D to show status bar.

14. OADC\_3D can now find a stable fault geometry using lambda\_3 in

    addition to global variance, specify by the use\_glo\_var.

    use\_glo\_var = 1; use global variance

    use\_glo\_var = 2; use lambda\_3

15. OADC\_3D can now split the thickest fault using the focal mechanisms

    of earthquakes, if given, instead of randomly-seeded planes.

16. Changed the equations for determining strike and dip accordingly for

    strike to go from the north clockwisely.

17. Fixed a bug in dividing thick fault into two in randfaults\_using\_FM.m by moving the

    L/2 out of the k=1:n0 loop, and changed L2 to L22 cos there is another L2 later.

18. Checked if Cxy contains NaN. This happens if no hypocenter is close to

    one of the thickest faults.

19. Save diary to file using "diary [simul\_tag '.myDiaryFile.txt']"

20. Plot best 6 fault models and display their fault parameters.