**Installation of codes VPSC and POLE**

See attached the files required to run the polycrystal plasticity code VPSC (version 7d) and the pole figure plotting code POLE (version 8d).  
 The files VPSC7d.ZIP and POLE8d.ZIP contain the source code, a manual with examples, and the input/output files corresponding to the examples. The files VPSC7d\_MANUAL.PDF and POLE8d\_MANUAL.PDF contain a description of: formulation, architecture of the code, Input/Output files and examples. The minimum requirement for the user is to read the description of I/O files.  
 The folders EXAMPLEnn or EXnn provide I/O files for different cases, each one described and plotted in the manual. We strongly suggest the user to reproduce some of the examples before using the code for his/her specific application, in order to check the installation and become familiar with the structure of the files.

1- unzip/install source VPSC7d in directory /VPSC7/

🡪 will also install subdirectories /EXnn/ with examples

2- unzip/install source POLE8d in directory /POLE8/

🡪 will also install subdirectories /EXAMPLEnn/ with examples

3- compile VPSC7.FOR in command window **using double precision switches**!

🡪 with G-FORTRAN use: gfortran –fdefault-real-8 –fdefault-double-8 vpsc7.for –o vpsc7

🡪 or, more encompassing: gfortran -fdefault-real-8 -fdefault-double-8 -ffixed-line-length-none  
 -fno-automatic -fno-align-common vpsc7.for -o vpsc7

🡪 an executable VPSC7.EXE will be created in directory /VPSC7/

4- compile POLE8 in command window

🡪 with G-FORTRAN use: gfortran vpsc7.for –o vpsc7

🡪 an executable POLE8.EXE will be created in directory /POLE/

🡪 copy POLE8.EXE & POLE8.IN in the directory /VPSC7/ to plot textures produced by VPSC

5- EXAMPLE 01: tension and compression of FCC

🡪 copy file(s) VPSC7\EX01\vpsc7\_t0.in into VPSC7\vpsc7.in (same later for the cases vpsc7\_t4, vpsc\_c0, vpsc7\_c4)

🡪 run VPSC7.exe from command window. Will generate \*.OUT files

🡪 plot STR\_STR.OUT (stress vs strain) and ACT\_PH1.OUT (system activity)

🡪 run POLE8.EXE to generate ‘dummy.PLT’ for plotting inverse pole figures

🡪 type **start gnuplot** to open a gnuplot terminal (window)

🡪 type **load ‘DUMMY.plt’** to display the PF or IPF in the monitor

6- EXAMPLE 02: rolling of FCC

🡪 copy vpsc7\ex02\_fcc\vpsc7\_a.in into vpsc7\vpsc7.in

🡪 run vpsc7.exe 🡪 will generate \*.out files

🡪 plot ACT\_PH1.OUT, PCYS.OUT, LANKFORD.OUT

🡪 modify ex02\_fcc\POLE8.IN and plot TEX\_PH1.OUT (choose 2,1,3 axes)

7- EXAMPLE 05: torsion of FCC – fixed ends

🡪 copy vpsc7\ex05\_fcc\vpsc7\_a.in into vpsc7\vpsc7.in

🡪 run vpsc7.exe 🡪 will generate \*.out files

🡪 plot STR\_STR.OUT, PCYS.OUT (x2 is axial)

🡪 move ex05\_fcc\POLE8.IN and plot TEX\_PH1.OUT (choose 1,2,3 axes)

8- EXAMPLE 10: ECAE of FCC – route B – two passes

🡪 copy vpsc7\ex10\_ECA\vpsc7\_B.in into vpsc7\vpsc7.in

🡪 run vpsc7.exe 🡪 will generate \*.out files

🡪 move ex10\_ECA\POLE8.IN and plot TEX\_PH1.OUT (choose 1,2,3 axes)