ray.f

**arguments** (4 in total).

1: running mode (jmode), jmode=1 for ray tracing, jmode=2 for drawing Chapman dist.

if jmode is 1, 2: zenith angle start value, 3:zenith angle end value, 4: launch angle step

if jmode is 2, 2: first parameter in Chapman dist., 3: second parameter for Chapman dist.

**necessary file**

velocity structure file (“ac\_vel” for US standard atmosphere)

**example**

for ray tracing

bin/ray 1 0.0 28.0 0.25 > (output file)

calculating ray for launch angle between 0 (vertical) and 28 degrees with steps of 0.25 degrees (4 rays in 1 degree)

output file can be displayed using

cat (output file) | gmt psxy -JX7/4.2 -R -W0.2,100 -O -K >> POST.ps

for drawing Chapman distribution

bin/ray 2 300.0 65.0 > (output file)