

conti2d

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Manual

Hellow World

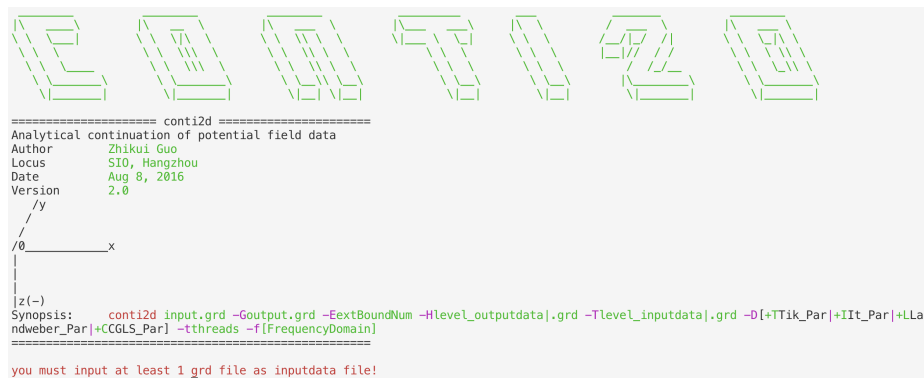


Figure 1:

The data and run scripts are in the example folder

1. Upward Continuation from Plane to Plane

```
field_path=./data
field_in=mag_plane_0
field_out=${field_in}_uwc_p2p.vtk
height_uwc=8
conti2d ${field_path}/${field_in}.grd -G${field_out} -H$height_uwc
```

```
Synopsis:   conti2d input.grd -Goutput.grd -EextBoundNum -Hlevel_outputdata|.grd -Tlevel_inputdata|.grd -D[+TTik_Par|+IIt_Par|+LLa
ndweber_Par|+CCGLS_Par] -tthreads -f[FrequencyDomain]
=====

*****
Upward continuation from plane to plane:0->8
*****
ASCII
calculating kernal matrix
calculating first row of new kernel
calculating uwc: 8 threads are used
Finished
Output file format is : vtk
Use Time:1.234070 second _
```

Figure 2:

2. Upward Continuation from Plane to Surface

```
field_path=../data
field_in=mag_plane_0
field_out=${field_in}_uwc_p2s.vtk
topo_in=topo
conti2d ${field_path}/${field_in}.grd -G${field_out} -T0 -H${field_path}/${topo_in}.grd
```

```
Synopsis:      conti2d input.grd -Goutput.grd -ExtBoundNum -Hlevel_outputdata].grd -Tlevel_inputdata].grd -D[+TTik_Par|+Iit_Par|+LLa
ndweber_Par|+CCGLS_Par] -tthreads -f[FrequencyDomain]
=====
*****
Upward continuation from plane to surface:0-> Topography
*****
ASCII
calculating kernel matrix
new kernel of plane to surface: 8 threads are used
[#####]100%

calculating uwc from plane to surface
Finished
Output file format is : vtk
Use Time:6.396805 second _
```

Figure 3:

3. Downward Continuation from Plane to Plane

```
field_path=../data
field_in=mag_plane_8
field_out=${field_in}_dwc_p2p.grd
height_dwc=8
conti2d ${field_path}/${field_in}.grd -G${field_out} -E5 -H0 -T$height_dwc -D+L1500
```

```
Synopsis:      conti2d input.grd -Goutput.grd -ExtBoundNum -Hlevel_outputdata].grd -Tlevel_inputdata].grd -D[+TTik_Par|+Iit_Par|+LLa
ndweber_Par|+CCGLS_Par] -tthreads -f[FrequencyDomain]
=====
extend data 5 spacing
Landweber iteration number:150
*****
Downward continuation from plane to plane:8->0
*****
ASCII
8 threads
Size of data: 138 X 138
Size of kernel mat.: 19044 X 19044
Only save the first row of kernel mat: 0.145294Mb
Downward continuation: 8 point spacing
*****
new kernel of plane to surface: 8 threads are used
[#####]100%

Landweber iteration method: kmax=150
mkdir: mag_plane_8_dwc_p2p_Landweber: File exists
rm: mag_plane_8_dwc_p2p_Landweber/*.grd: No such file or directory
[#####]100% [Iteration ] [150 ]
[#####]39% [RE(log10):] [-3.157 ]
mag_plane_8_dwc_p2p.grd saved
Use Time:104.856422 second
```

Figure 4:

4. Downward Continuation from Surface to Plane

```
field_path=../data
field_in=mag_topo
field_out=${field_in}_dwc_s2p.vtk
topofile=${field_path}/topo.grd
conti2d ${field_path}/${field_in}.grd -G${field_out} -E0 -H0 -T$topofile -D+L1500
```

```
Synopsis:      conti2d input.grd -Goutput.grd -ExtBoundNum -Hlevel_outputdata].grd -Tlevel_inputdata].grd -D[+TTik_Par|+IIt_Par|+LLa
ndweber_Par|+CCGLS_Par] -tthreads -f[FrequencyDomain]
=====
extend data 0 spacing
Landweber iteration number:100
DWC surface to plane
*****
Downward continuation from surface to plane: topography->0
*****
The maximum iteration number: 500, Iterative termination condition: 1e-05
ASCII
Data size: 128 X 128
Size of kernel mat.: 16384 X 16384
Memory of kernel mat.: 2048Mb
Point spacing dx: 1 dy: 1
Downward continue: 7.64529 point spacing to 0 point spacing
*****
calculating kernal matrix
new kernel of plane to surface: 8 threads are used
[#####]100%

Landweber iteration method: kmax=100
mkdir: mag_topo_dwc_s2p_Landweber: File exists
rm: mag_topo_dwc_s2p_Landweber/*.grd: No such file or directory
[#####]100% [Iteration ] [100      ]
[#####]42% [RE(log10):] [-3.36427 ]
Output file format is : vtk
Use Time:56.251130 second _
```

Figure 5: