# Contents



## Usage of CRG_ISEQUAL

Introducing the usage of crg_isequal. Examples are included for a set of common CRG-file formats. The file comments are optimized for the matlab publishing makro.

```
%   Copyright 2005-2011 OpenCRG - VIRES Simulationstechnologie GmbH -
%   Holger Helmich
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%   See the License for the specific language governing permissions and
%   limitations under the License.
%
%   More Information on OpenCRG open file formats and tools can be found at
%
%       http://www.opencrg.org
%
%   $Id: crg_test_isequal.m 41 2011-06-08 10:26:00Z hhelmich $
```

## Test proceedings

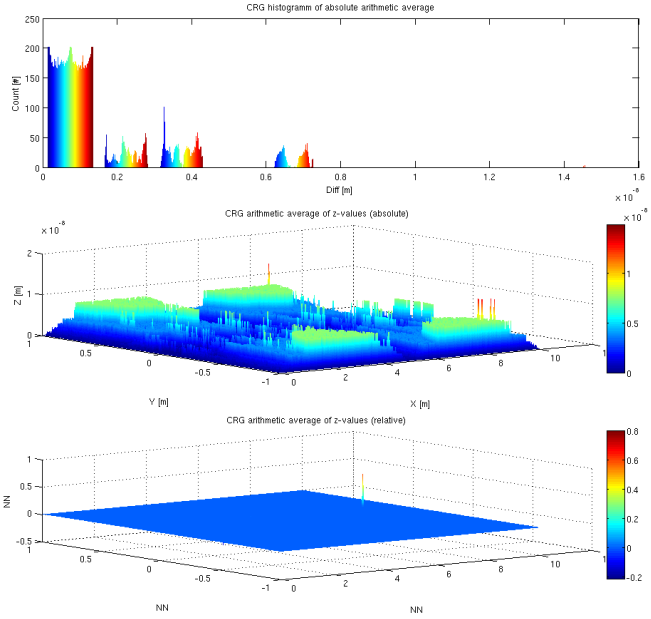
- load demo/real crg-file
- modify crg-structure
- compare
- display result

```
% DEFAULT SETTINGS
% clear enviroment
clear all;
close all;
% display results
dispRes = 1;
```

### Test1 ( check crg_b2z )

```
mdat = crg_read('demo7.crg');

data = mdat;
data = crg_b2z(mdat);

[crgEqual, dd] = crg_isequal(mdat, data);

if dispRes, crg_show_isequal(dd); end
```

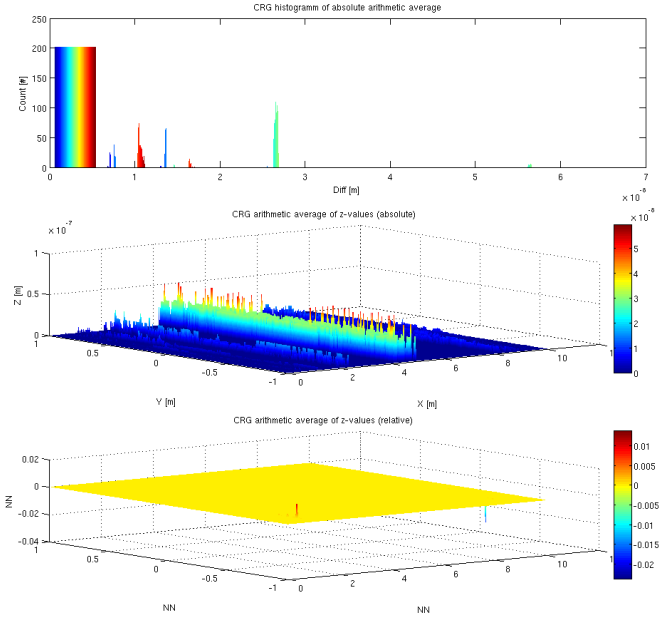
```
    'field mods not considered'

    'field opts not considered'

    'field ct not considered'

    'field struct not considered'

    'field filenm not considered'

    'field p not considered'

    'field rx not considered'

    'field ry not considered'

    'field rc not considered'

    'field dved not considered'

    'field ir not considered'

    'field il not considered'

    'field hist not considered'

    'field ok not considered'
```


CRG histogramm of absolute arithmetic average
Count [#]
Diff [m]
CRG arithmetic average of z-values (absolute)
Z [m]
Y [m]
X [m]
CRG arithmetic average of z-values (relative)
NN
NN
NN

### Test1.1 ( check crg_s2z )

```
mdat = crg_read('demo8.crg');

data = mdat;
data = crg_s2z(mdat);

[crgEqual, dd] = crg_isequal(mdat, data);

if dispRes, crg_show_isequal(dd); end
```

```
    'field mods not considered'

    'field opts not considered'

    'field ct not considered'

    'field struct not considered'

    'field filenm not considered'

    'field b not considered'

    'field p not considered'

    'field rx not considered'

    'field ry not considered'

    'field rc not considered'

    'field dved not considered'

    'field ir not considered'

    'field il not considered'

    'field hist not considered'

    'field ok not considered'
```


CRG histogramm of absolute arithmetic average
Count [#]
Diff [m]
CRG arithmetic average of z-values (absolute)
Z [m]
Y [m]
X [m]
CRG arithmetic average of z-values (relative)
NN
NN
NN

### Test1.2 ( check crg_b2z & crg_s2z)

```
mdat = crg_read('demo8.crg');

data = mdat;
data = crg_s2z(mdat);
data = crg_b2z(mdat);

[crgEqual, dd] = crg_isequal(mdat, data);

if dispRes, crg_show_isequal(dd); end
```

```
    'field mods not considered'

    'field opts not considered'

    'field ct not considered'

    'field struct not considered'

    'field filenm not considered'

    'field p not considered'

    'field s not considered'

    'field rx not considered'

    'field ry not considered'

    'field rc not considered'

    'field dved not considered'

    'field rz not considered'

    'field ir not considered'

    'field il not considered'

    'field hist not considered'

    'field ok not considered'
```

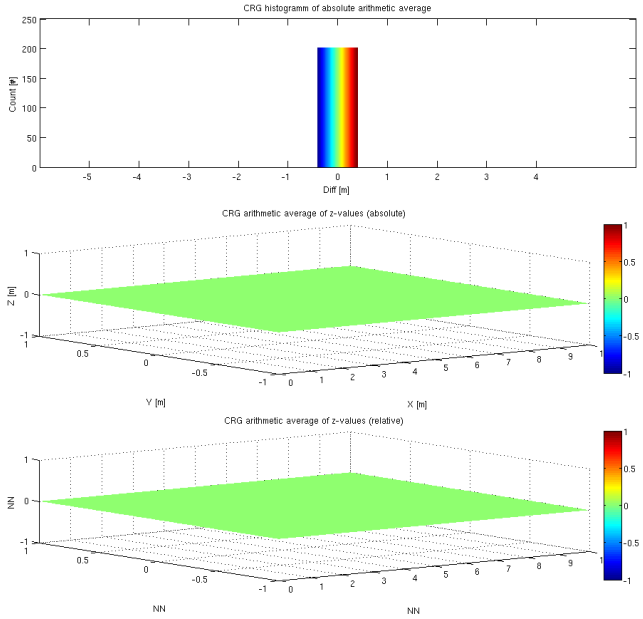
### Test2 ( cut -> concat -> compare )

```
data = crg_read('demo1.crg');

crg0 = crg_cut_iuiv(data, [1, 1000]);
crg1 = crg_cut_iuiv(crg0, [1, 501]);
crg2 = crg_cut_iuiv(crg0, [500, 1000]);

crg3 = crg_append(crg1, crg2);

[crgEqual, dd] = crg_isequal(crg0, crg3);

if dispRes, crg_show_isequal(dd); end
```

### Test2.1 ( cut -> concat -> compare )

```
data = crg_read('demo2.crg');

crg0 = crg_cut_iuiv(data, [1, 1000]);
crg1 = crg_cut_iuiv(crg0, [1, 501]);
crg2 = crg_cut_iuiv(crg0, [500, 1000]);

crg3 = crg_append(crg1, crg2);

[crgEqual, dd] = crg_isequal(crg0, crg3);

if dispRes, crg_show_isequal(dd); end
```

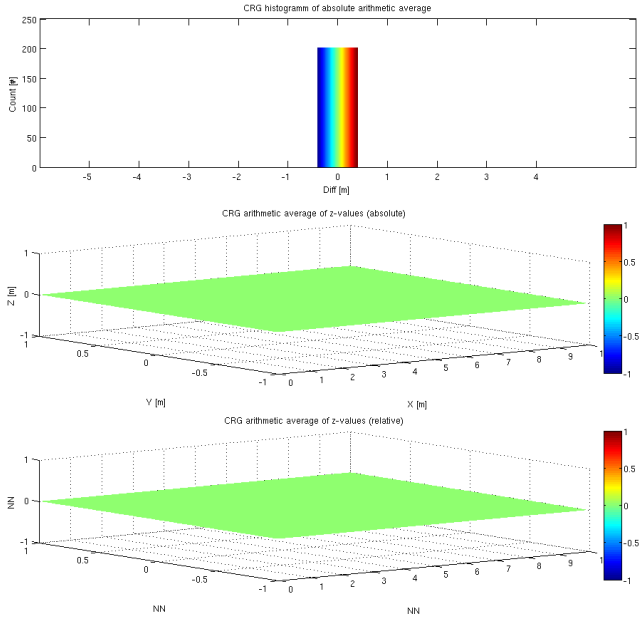
```
    'fields in bcrg are dropped: "ct".'

    'field mods not considered'

    'field opts not considered'

    'field dved not considered'

    'field ir not considered'

    'field il not considered'

    'field hist not considered'

    'field ok not considered'
```


CRG histogramm of absolute arithmetic average
Count [#]
Diff [m]
CRG arithmetic average of z-values (absolute)
Z [m]
Y [m]
X [m]
CRG arithmetic average of z-values (relative)
NN
NN
NN

### Test2.2 ( cut -> concat -> compare )

```
data = crg_read('demo3.crg');

crg0 = crg_cut_iuiv(data, [1, 1000]);
crg1 = crg_cut_iuiv(crg0, [1, 501]);
crg2 = crg_cut_iuiv(crg0, [500, 1000]);

crg3 = crg_append(crg1, crg2);

[crgEqual, dd] = crg_isequal(crg0, crg3);

if dispRes, crg_show_isequal(dd); end
```

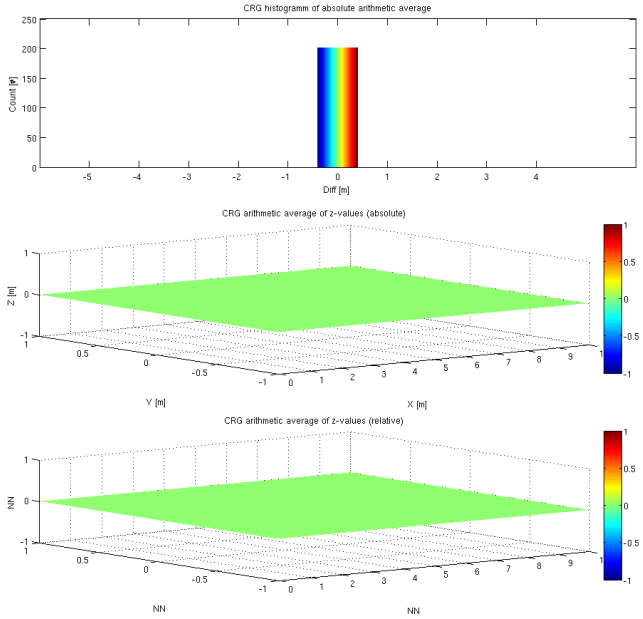
```
    'fields in bcrg are dropped: "ct".'

    'field mods not considered'

    'field opts not considered'

    'field dved not considered'

    'field ir not considered'

    'field il not considered'

    'field hist not considered'

    'field ok not considered'
```


CRG histogramm of absolute arithmetic average
Count [#]
Diff [m]
CRG arithmetic average of z-values (absolute)
Z [m]
Y [m]
X [m]
CRG arithmetic average of z-values (relative)
NN
NN
NN

### Test2.3 ( cut -> concat -> compare )

```
data = crg_read('demo4.crg');

crg0 = crg_cut_iuiv(data, [1, 1000]);
crg1 = crg_cut_iuiv(crg0, [1, 501]);
crg2 = crg_cut_iuiv(crg0, [500, 1000]);
crg3 = crg_append(crg1, crg2);

[crgEqual, dd] = crg_isequal(crg0, crg3);

if dispRes, crg_show_isequal(dd); end
```

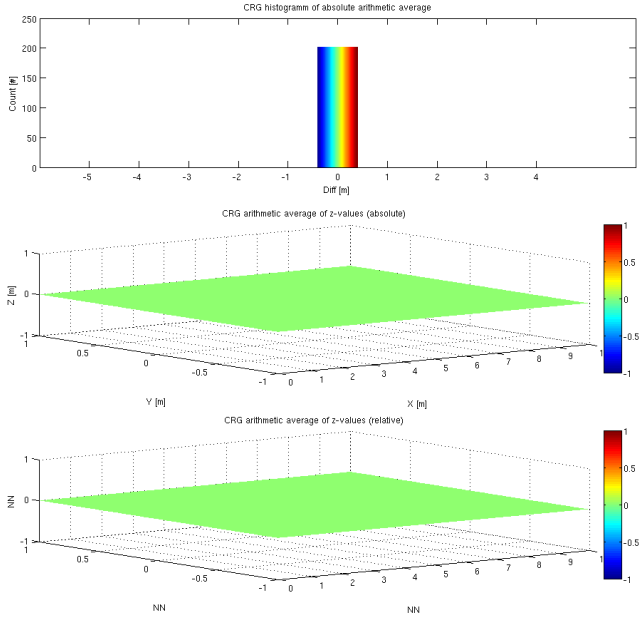
```
    'fields in bcrg are dropped: "ct".'

    'field mods not considered'

    'field opts not considered'

    'field p not considered'

    'field dved not considered'

    'field ir not considered'

    'field il not considered'

    'field hist not considered'

    'field ok not considered'
```


CRG histogramm of absolute arithmetic average
Count [#]
Diff [m]
CRG arithmetic average of z-values (absolute)
Z [m]
Y [m]
X [m]
CRG arithmetic average of z-values (relative)
NN
NN
NN

### Test2.4 ( cut -> concat -> compare )

```
data = crg_read('demo5.crg');

crg0 = crg_cut_iuiv(data, [1, 1000]);
crg1 = crg_cut_iuiv(crg0, [1, 501]);
crg2 = crg_cut_iuiv(crg0, [500, 1000]);

crg3 = crg_append(crg1, crg2);

[crgEqual, dd] = crg_isequal(crg0, crg3);

if dispRes, crg_show_isequal(dd); end
```

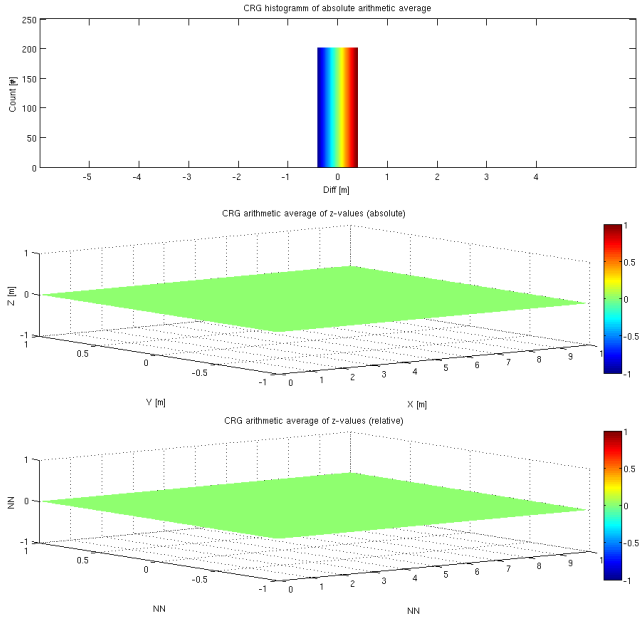
```
    'fields in bcrg are dropped: "ct".'

    'field mods not considered'

    'field opts not considered'

    'field p not considered'

    'field dved not considered'

    'field ir not considered'

    'field il not considered'

    'field hist not considered'

    'field ok not considered'
```


CRG histogramm of absolute arithmetic average
Count [#]
Diff [m]
CRG arithmetic average of z-values (absolute)
Z [m]
Y [m]
X [m]
CRG arithmetic average of z-values (relative)
NN
NN
NN

### Test2.5 ( cut -> concat -> compare )

```
data = crg_read('demo6.crg');

crg0 = crg_cut_iuiv(data, [1, 1000]);
crg1 = crg_cut_iuiv(crg0, [1, 501]);
crg2 = crg_cut_iuiv(crg0, [500, 1000]);

crg3 = crg_append(crg1, crg2);

[crgEqual, dd] = crg_isequal(crg0, crg3);

if dispRes, crg_show_isequal(dd); end
```

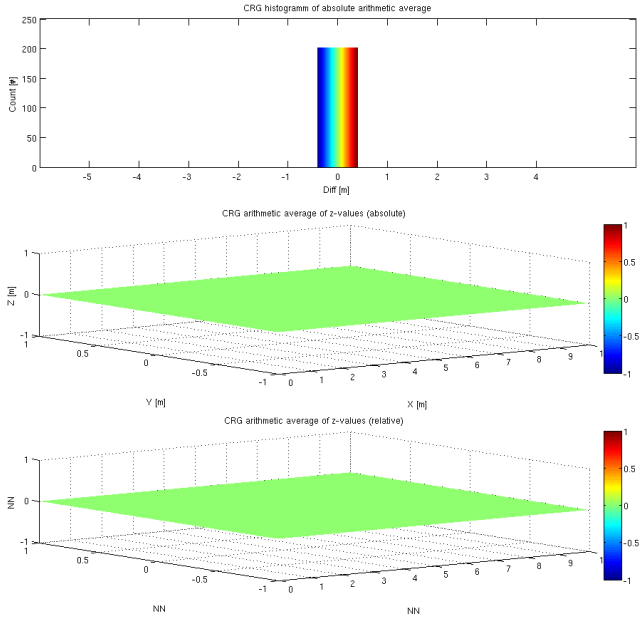
```
    'fields in bcrg are dropped: "ct".'

    'field mods not considered'

    'field opts not considered'

    'field p not considered'

    'field rx not considered'

    'field ry not considered'

    'field rc not considered'

    'field dved not considered'

    'field ir not considered'

    'field il not considered'

    'field hist not considered'

    'field ok not considered'
```


CRG histogramm of absolute arithmetic average
Count [#]
Diff [m]
CRG arithmetic average of z-values (absolute)
Z [m]
Y [m]
X [m]
CRG arithmetic average of z-values (relative)
NN
NN
NN

### Test2.6 ( cut -> concat -> compare )

```
data = crg_read('demo7.crg');
crg0 = crg_cut_iuiv(data, [1, 1000]);
crg1 = crg_cut_iuiv(crg0, [1, 301]);
crg2 = crg_cut_iuiv(crg0, [300, 1000]);

crg3  = crg_append(crg1, crg2 );

[crgEqual, dd] = crg_isequal(crg0, crg3);

if dispRes, crg_show_isequal(dd); end
```

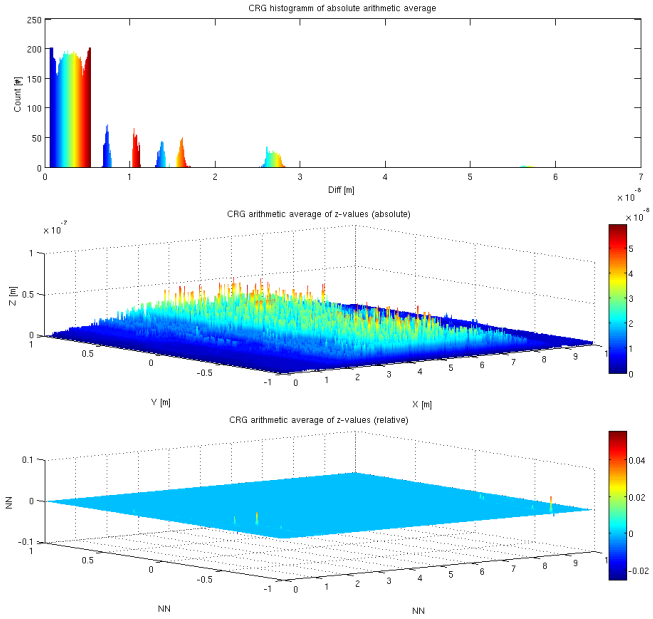
```
    'fields in bcrg are dropped: "ct".'

    'field mods not considered'

    'field opts not considered'

    'field b not considered'

    'field p not considered'

    'field rx not considered'

    'field ry not considered'

    'field rc not considered'

    'field dved not considered'

    'field ir not considered'

    'field il not considered'

    'field hist not considered'

    'field ok not considered'
```


CRG histogramm of absolute arithmetic average
Count [#]
Diff [m]
CRG arithmetic average of z-values (absolute)
Z [m]
Y [m]
X [m]
CRG arithmetic average of z-values (relative)
NN
NN
NN

### Test2.7 ( cut -> concat -> compare )

```
data = crg_read('demo8.crg');

crg0 = crg_cut_iuiv(data, [1, 1000]);
crg1 = crg_cut_iuiv(crg0, [1, 301]);
crg2 = crg_cut_iuiv(crg0, [300, 1000]);

crg3 = crg_append(crg1, crg2 );

[crgEqual, dd] = crg_isequal(crg0, crg3);

if dispRes, crg_show_isequal(dd); end
```

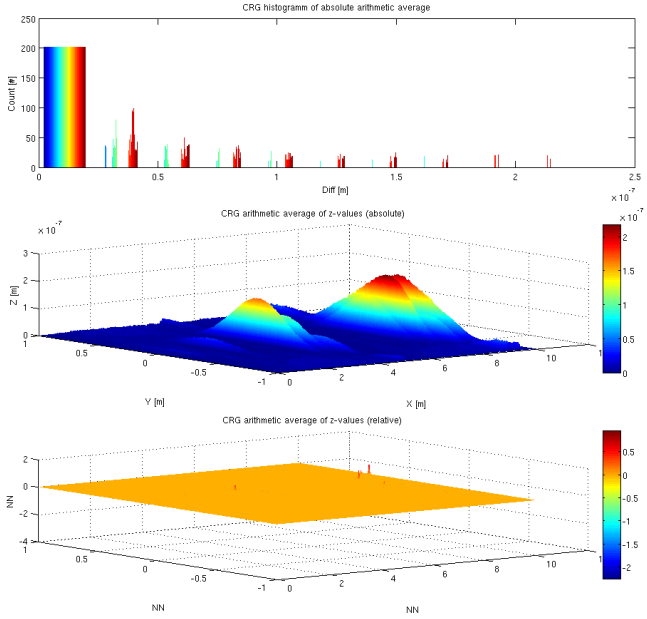
```
    'fields in bcrg are dropped: "ct".'

    'field mods not considered'

    'field opts not considered'

    'field b not considered'

    'field p not considered'

    'field s not considered'

    'field rx not considered'

    'field ry not considered'

    'field rc not considered'

    'field dved not considered'

    'field rz not considered'

    'field ir not considered'

    'field il not considered'

    'field hist not considered'

    'field ok not considered'
```


CRG histogramm of absolute arithmetic average
Count [#]
Diff [m]
CRG arithmetic average of z-values (absolute)
Z [m]
Y [m]
X [m]
CRG arithmetic average of z-values (relative)
NN
NN
NN

### Test3 ( check crg_ext_banking )

```
data = crg_read('demo7.crg');

exdata = crg_ext_banking(data);

[crgEqual, dd] = crg_isequal(data, exdata);

if dispRes, crg_show_isequal(dd); end
```

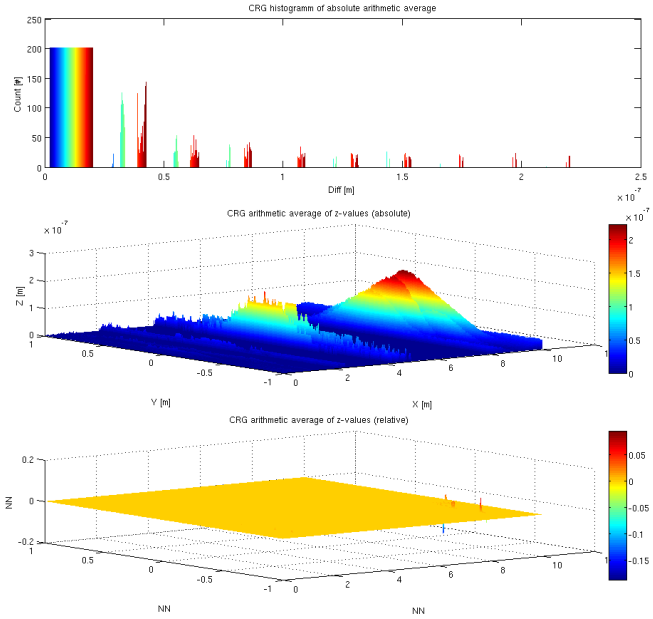
```
    'field mods not considered'

    'field opts not considered'

    'field ct not considered'

    'field struct not considered'

    'field filenm not considered'

    'field b not considered'

    'field p not considered'

    'field rx not considered'

    'field ry not considered'

    'field rc not considered'

    'field dved not considered'

    'field ir not considered'

    'field il not considered'

    'field hist not considered'

    'field ok not considered'
```


CRG histogramm of absolute arithmetic average
Count [#]
Diff [m]
CRG arithmetic average of z-values (absolute)
Z [m]
Y [m]
X [m]
CRG arithmetic average of z-values (relative)
NN
NN
NN

### Test3.1 (check crg_ext_slope )

```
data = crg_read('demo8.crg');

exdata = crg_ext_slope(data, 0.001);

[crgEqual, dd] = crg_isequal(data, exdata);

if dispRes, crg_show_isequal(dd); end
```

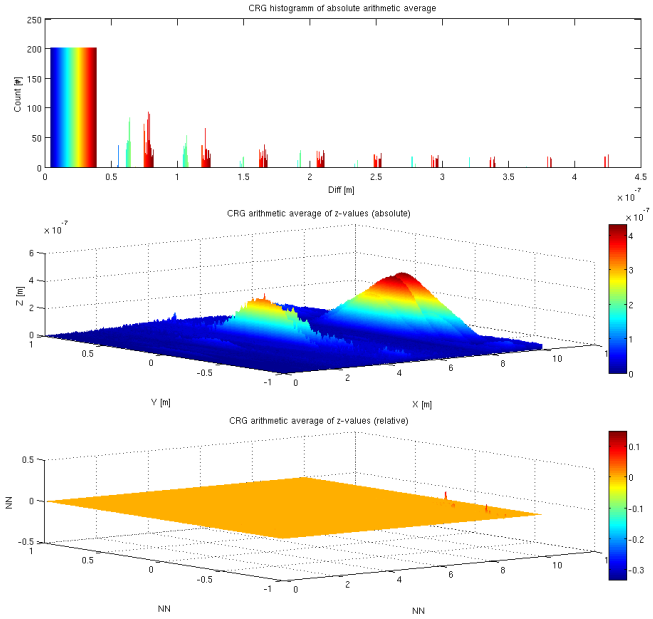
```
    'field mods not considered'

    'field opts not considered'

    'field ct not considered'

    'field struct not considered'

    'field filenm not considered'

    'field b not considered'

    'field p not considered'

    'field s not considered'

    'field rx not considered'

    'field ry not considered'

    'field rc not considered'

    'field dved not considered'

    'field rz not considered'

    'field ir not considered'

    'field il not considered'

    'field hist not considered'

    'field ok not considered'
```


CRG histogramm of absolute arithmetic average
Count [#]
Diff [m]
CRG arithmetic average of z-values (absolute)
Z [m]
Y [m]
X [m]
CRG arithmetic average of z-values (relative)
NN
NN
NN

### Test3.2 (check crg_ext_slope/banking)

```
data = crg_read('demo8.crg');

exdata = crg_ext_banking(data, 0.001);
exdata = crg_ext_slope(exdata, 0.001);

[crgEqual, dd] = crg_isequal(data, exdata);

if dispRes, crg_show_isequal(dd); end
```

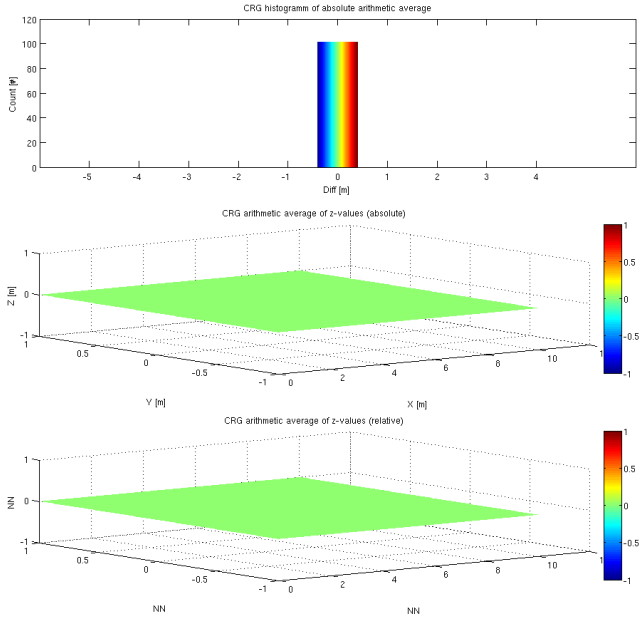
```
    'field mods not considered'

    'field opts not considered'

    'field ct not considered'

    'field struct not considered'

    'field filenm not considered'

    'field b not considered'

    'field p not considered'

    'field s not considered'

    'field rx not considered'

    'field ry not considered'

    'field rc not considered'

    'field dved not considered'

    'field rz not considered'

    'field ir not considered'

    'field il not considered'

    'field hist not considered'

    'field ok not considered'
```


CRG histogramm of absolute arithmetic average
Count [#]
Diff [m]
CRG arithmetic average of z-values (absolute)
Z [m]
Y [m]
X [m]
CRG arithmetic average of z-values (relative)
NN
NN
NN

### Test4 (check rerender)

```
data = crg_read('demo1.crg');

data = crg_rerender(data, [0.02 0.02]);

dat = crg_rerender(data, [0.01 0.01]);
dat = crg_rerender(dat, [0.02 0.02]);

[crgEqual, dd] = crg_isequal(data, dat);

if dispRes, crg_show_isequal(dd); end
```

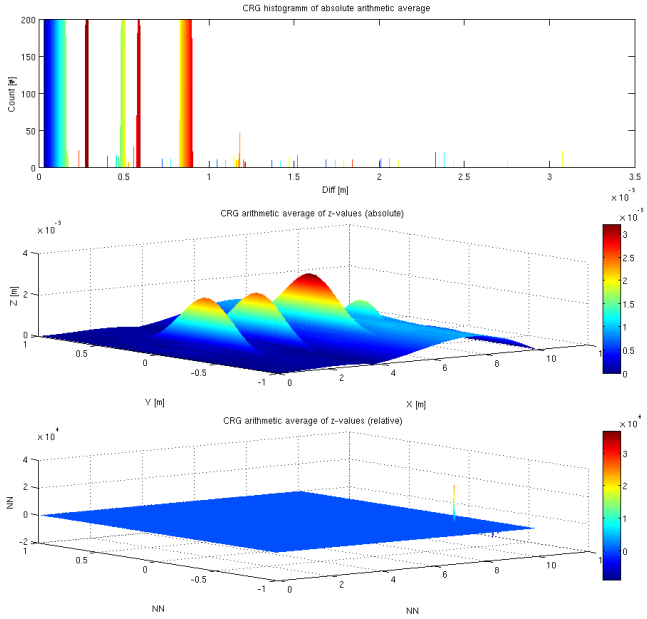
```
    'field mods not considered'

    'field opts not considered'

    'field dved not considered'

    'field ir not considered'

    'field il not considered'

    'field hist not considered'

    'field ok not considered'
```


CRG histogramm of absolute arithmetic average
Count [#]
Diff [m]
CRG arithmetic average of z-values (absolute)
Z [m]
Y [m]
X [m]
CRG arithmetic average of z-values (relative)
NN
NN
NN

### Test4.1 (check rerender)

```
data = crg_read('demo8.crg');

data = crg_rerender(data, [0.01 0.01]);

dat = crg_rerender(data, [0.02 0.02]);
dat = crg_rerender(dat, [0.01 0.01]);

dat = crg_cut_iuiv(dat, [1 size(data.z,1)]);
data = crg_cut_iuiv(data, [1 size(data.z,1)], [1 size(dat.z,2)]);

[crgEqual, dd] = crg_isequal(data, dat);

if dispRes, crg_show_isequal(dd); end
```

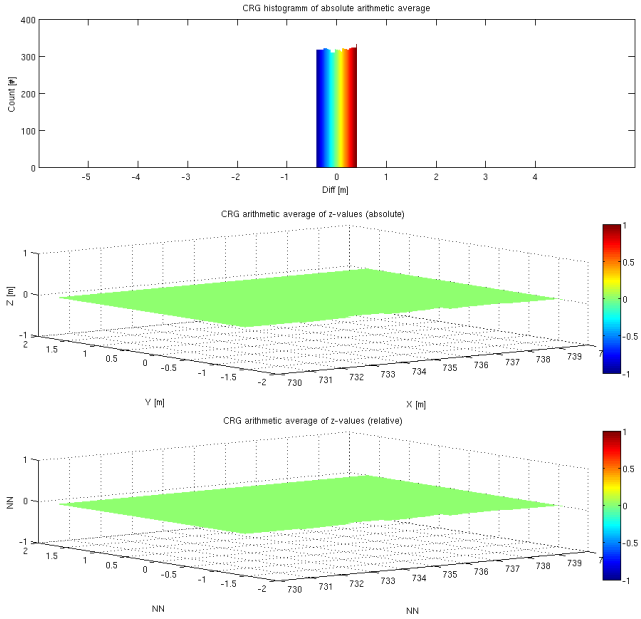
```
    'field mods not considered'

    'field opts not considered'

    'field ct not considered'

    'field b not considered'

    'field p not considered'

    'field s not considered'

    'field rx not considered'

    'field ry not considered'

    'field rc not considered'

    'field dved not considered'

    'field rz not considered'

    'field ir not considered'

    'field il not considered'

    'field hist not considered'

    'field ok not considered'
```


CRG histogramm of absolute arithmetic average
Count [#]
Diff [m]
CRG arithmetic average of z-values (absolute)
Z [m]
Y [m]
X [m]
CRG arithmetic average of z-values (relative)
NN
NN
NN

### Test4.2 (check rerender)

```
data = crg_read('../crg-bin/belgian_block.crg');

data = crg_rerender(data, [0.01 0.01]);

dat = crg_rerender(data, [0.005 0.005]);
dat = crg_rerender(dat, [0.01 0.01]);

dat = crg_cut_iuiv(dat, [1 size(data.z,1)]);
data = crg_cut_iuiv(data, [1 size(data.z,1)], [1 size(dat.z,2)]);

[crgEqual, dd] = crg_isequal(data, dat);

if dispRes, crg_show_isequal(dd); end
```

```
    'field mods not considered'

    'field opts not considered'

    'field ct not considered'

    'field p not considered'

    'field rx not considered'

    'field ry not considered'

    'field rc not considered'

    'field dved not considered'

    'field ir not considered'

    'field il not considered'

    'field hist not considered'

    'field ok not considered'
```


CRG histogramm of absolute arithmetic average
Count [#]
Diff [m]
CRG arithmetic average of z-values (absolute)
Z [m]
Y [m]
X [m]
CRG arithmetic average of z-values (relative)
NN
NN
NN

### Test5 ( check real crg_ext_slope/banking )

```
dat = crg_read('../crg-bin/belgian_block.crg');

exdata = crg_ext_banking(dat, 0.0000000000003);
exdata = crg_ext_slope(exdata);

[crgEqual, dd] = crg_isequal(dat, exdata);

if dispRes, crg_show_isequal(dd); end
```

```
    'field mods not considered'

    'field opts not considered'

    'field ct not considered'

    'field struct not considered'

    'field filenm not considered'

    'field b not considered'

    'field p not considered'

    'field s not considered'

    'field rx not considered'

    'field ry not considered'

    'field rc not considered'

    'field dved not considered'

    'field rz not considered'

    'field ir not considered'

    'field il not considered'

    'field hist not considered'

    'field ok not considered'

    'xbeg of CRG-files are not equal'
```

```
'xend of CRG-files are not equal'

'ybeg of CRG-files are not equal'

'yend of CRG-files are not equal'
```