Contents

Usage of CRG_EVAL_UV2IUIV

Introducing the usage of crg_eval_uv2iuiv. Examples are included. The file comments are optimized for the matlab publishing makro.

Test proceedings

Test 1-4

- load crg-file
- find index positions

```
% DEFAULT SETTINGS
% clear enviroment
clear all;
close all;
```

Test1 (u-values)

```
data = crg_read('demo3.crg');
u = data.head.ubeg:data.head.uinc:data.head.uend;

[iu] = crg_eval_uv2iuiv(data, [-1, 0, 5, 7, 10, 11] );
disp('Index: ');
disp(sprintf('< %d > \t', iu));

disp('Distance u(iu) = ');
disp(sprintf('< %f > \t', u(iu)));
```

```
Index:
< 1 >  < 1 >  < 501 >  < 701 >  < 1001 >  < 1005 >
Distance u(iu) =
< 0.000000 >  < 0.000000 >  < 5.000000 >  < 7.000000 >  < 10.000000 >  < 10.040000 >
```

Test2 (empty)

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

[iu] = crg_eval_uv2iuiv(data, [] );
```

Test3 (v-values constant vinc)

```
data = crg_read('demo1.crg');
v = data.head.vmin:data.head.vinc:data.head.vmax;

[iu, iv] = crg_eval_uv2iuiv(data, [],  [-2 -1 -0.5, 0, 0.5, 1 2]);
disp('Index: ');
disp(sprintf('< %d > \t', iv));

disp('Distance v(iv) = ');
disp(sprintf('< %f > \t', v(iv)));
```

```
Index:
< 1 >  < 1 >  < 51 >  < 101 >  < 151 >  < 201 >  < 201 >
Distance v(iv) =
< -1.000000 >  < -1.000000 >  < -0.500000 >  < 0.000000 >  < 0.500000 >  < 1.000000 >  < 1.0
```

Test3.1 (v-values no constant vinc)

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

[iu, iv] = crg_eval_uv2iuiv(data, [],  [-2 -1 -0.5, 0, 0.5, 1 2]);
disp('Index: ');
disp(sprintf('< %d > \t', iv));

disp('Distance v(iv) = ');
disp(sprintf('< %f > \t', v(iv)));
```

```
Index:
< 1 >  < 1 >  < 51 >  < 101 >  < 151 >  < 201 >  < 201 >
Distance v(iv) =
< -0.992000 >  < -0.992000 >  < -0.500000 >  < 0.000000 >  < 0.500000 >  < 1.000000 >  < 1.0
```

Test4 (uv-values & different uinc);

```
data = crg_read('demo6.crg');
u = data.head.ubeg:data.head.uinc:data.head.uend;
v = data.v;

dat = crg_rerender(data, [0.2]);

[iu, iv] = crg_eval_uv2iuiv(dat, [-1, 0, 5, 7, 10, 11], [-2, -1, 0.5, 0, 0.5, 1, 2]);
disp('Index iu: ');
disp(sprintf('< %d > \t', iu));
disp('Index iv: ');
disp(sprintf('< %d > \t', iv));

disp('Distance u(iu) = ');
disp(sprintf('< %f > \t', u(iu)));
disp('Distance v(iv) = ');
disp(sprintf('< %f > \t', v(iv)));
```

```
Index iu:
< 1 >  < 1 >  < 26 >  < 36 >  < 51 >  < 52 >
Index iv:
< 1 >  < 1 >  < 151 >  < 101 >  < 151 >  < 201 >  < 201 >
Distance u(iu) =
< 0.000000 >  < 0.000000 >  < 0.250000 >  < 0.350000 >  < 0.500000 >  < 0.510000 >
Distance v(iv) =
< -0.992000 >  < -0.992000 >  < 0.500000 >  < 0.000000 >  < 0.500000 >  < 1.000000 >  < 1.00
```