Example - how to use moment tensor files

Author: Abakumov Ivan

Freie Universität Berlin

Publication date: 22nd September 2017

E-mail: abakumov_ivan@mail.ru

Add MLIB library

```
clear; close all; clc;
mlibfolder = '/home/ivan/Desktop/MLIB';
path(path, mlibfolder);
add_mlib_path;
```

Compute moment tensor:

- using normal and slip vector

```
n = [1 0 0];
s = [0 1 0];
p = compute_potency(n,s);
disp(p);
```

```
         0    0.5000         0
    0.5000         0         0
         0         0         0
```

- using dip (theta) and azimuth (phi) of the fault plane and the slip direction (alpha) on this fault plane

```
p = compute_potency(45,45,0)
```

```
p = 3x3
    0.2500    0.2500         0
    0.2500    0.2500         0
         0         0   -0.5000
```

```
disp(p);
```

```
    0.2500    0.2500         0
    0.2500    0.2500         0
         0         0   -0.5000
```

- using dip (theta) and azimuth (phi) of the fault plane and the slip direction (alpha) on this fault plane and an additional angle describing opening or closing component

```
p = compute_potency(45,45,100,20);
disp(p);
```

```
    -0.4535    -0.1263    -0.3523
    -0.1263     0.2009     0.1104
    -0.3523     0.1104    -0.0894
```

Plot results

```
u = compute_displacement_iso(p,[1 .5]);
classic_beachball(u);
axis equal
xlabel('X-direction')
ylabel('Y-direction')
zlabel('Z-direction')
```