ZEN_Experiment_Parse1

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In [1]:
```
# do the required imports
import sys
import xml.etree.cElementTree as ET
sys.path.append(r'Modules')
import ZenExpParse as zp
%matplotlib inline
```

In [2]:
```
# define the ZEN experiment file (XML) and get the xml-tree
expfile = 'Data/Objektivtest.czexp'
exp_xmltree = ET.ElementTree(file=expfile)
```

In [3]:
```
# parse all tracks and all hardware settings
tracks =zp.parse_tracks_bfhws(exp_xmltree)
bfhws = zp.parse_hardwaresettings(exp_xmltree)
```

In [4]:
```
# show tracks with BeforeHardwareSettings
tracks
```

Out[4]:
```
{'TL Brightfield': {'BeforeHardwareSetting': 'Vor [Brigh]',
  'isActivated': 'true',
  'isSelected': 'false'},
 'TL Brightfield_10': {'BeforeHardwareSetting': 'Vor [Brigh]_10',
  'isActivated': 'true',
  'isSelected': 'false'},
 'TL Brightfield_2': {'BeforeHardwareSetting': 'Vor [Brigh]_2',
  'isActivated': 'true',
  'isSelected': 'false'},
 'TL Brightfield_3': {'BeforeHardwareSetting': 'Vor [Brigh]_3',
  'isActivated': 'true',
  'isSelected': 'false'},
 'TL Brightfield_4': {'BeforeHardwareSetting': 'Vor [Brigh]_4',
  'isActivated': 'true',
  'isSelected': 'false'},
 'TL Brightfield_5': {'BeforeHardwareSetting': 'Vor [Brigh]_5',
  'isActivated': 'true',
  'isSelected': 'false'},
 'TL Brightfield_6': {'BeforeHardwareSetting': 'Vor [Brigh]_6',
  'isActivated': 'true',
  'isSelected': 'true'},
 'TL Brightfield_7': {'BeforeHardwareSetting': 'Vor [Brigh]_7',
  'isActivated': 'true',
  'isSelected': 'false'},
 'TL Brightfield_8': {'BeforeHardwareSetting': 'Vor [Brigh]_8',
  'isActivated': 'true',
```

```
          'isSelected': 'false'},
         'TL Brightfield_9': {'BeforeHardwareSetting': 'Vor [Brigh]_9',
          'isActivated': 'true',
          'isSelected': 'false'}}
```

```
In [5]: # get entries for channel = 'TL Brightfield'
        ch = 'TL Brightfield'
        tracks[ch]
```

```
Out[5]: {'BeforeHardwareSetting': 'Vor [Brigh]',
         'isActivated': 'true',
         'isSelected': 'false'}
```

```
In [6]: # get name of BeforeHardwareSetting for selected channel
        stname = tracks[ch]['BeforeHardwareSetting']
        stname
```

```
Out[6]: 'Vor [Brigh]'
```

```
In [7]: # show all components for of this specific BeforehardwareSetting
        bfhws[stname]
```

```
Out[7]: {'MTBCondenserContrastChanger': {'IsActivated': 'true',
          'Position': '1',
          'PositionName': 'Contrast.BrightField',
          'Status': 'Valid'},
         'MTBCondenserFrontLensChanger': {'IsActivated': 'true',
          'Position': '2',
          'Status': 'Valid'},
         'MTBHXP120Shutter': {'IsActivated': 'true',
          'IsClosed': 'false',
          'Status': 'Valid'},
         'MTBHXPLamp': {'Intensity': '40',
          'IsActivated': 'true',
          'LampMode': 'Manual',
          'Status': 'Valid'},
         'MTBRLShutter': {'IsActivated': 'true', 'IsClosed': 'false', 'Status': None},
         'MTBReflectorChanger': {'IsActivated': 'true',
          'Position': '10',
          'PositionName': 'User.740/13',
          'Status': 'Valid'},
         'MTBTLApertureStop': {'IsActivated': 'true',
          'Position': '0.6004762962963',
          'Status': 'Valid'},
         'MTBTLFieldStop': {'IsActivated': 'true',
          'Position': '40',
          'Status': 'Valid'},
         'MTBTLFilterChanger1': {'IsActivated': 'true',
          'Position': '2',
          'PositionName': 'Transmission.6',
          'Status': 'Valid'},
         'MTBTLFilterChanger2': {'IsActivated': 'true',
          'Position': '3',
          'PositionName': 'User.LP 615',
          'Status': 'Valid'},
```

```
 'MTBTLHalogenLamp': {'Intensity': '0',
  'IsActivated': 'true',
  'LampMode': 'Standby',
  'Status': 'Valid'},
 'MTBTLShutter': {'IsActivated': 'true', 'IsClosed': 'true', 'Status': None},
 'MTBTubeVisCamChanger': {'IsActivated': 'true',
  'Position': '3',
  'PositionName': 'FotoTube.VIS_Cam_0/100',
  'Status': None}}
```

In [8]:
```
# show entries for a specific component
component = 'MTBTLFilterChanger2'
bfhws[stname][component]
```

Out[8]:
```
{'IsActivated': 'true',
 'Position': '3',
 'PositionName': 'User.LP 615',
 'Status': 'Valid'}
```

In [9]:
```
# show the name for the position of this component
bfhws[stname][component]['PositionName']
```

Out[9]:
```
'User.LP 615'
```