Devices Overview

September 20, 2021

[1]:
```
import os
```

[2]:
```
import numpy as np
pi = np.pi

import matplotlib.pyplot as plt
%matplotlib inline
plt.rcParams["font.family"] = "serif"
```

[3]:
```
import util
from util import plotstyle
```

[4]:
```
plotstyle.load('print')
```

[4]:
```
True
```

[5]:
```
devs = util.devices.load_all()
```

[6]:
```
for dev in devs:
    print(dev.descr_str())
```

```
LED: Thorlabs SOLIS-3C
Halogen Lamp: Olympus U-LH100L-3
Objective Lens: Olympus UPlanApo x100
Tube Lens: Thorlabs AC254-250-A1-ML
Diffraction Grating: Thorlabs GT25-03
EMCCD: Andor iXon DV885-LC-VP
```

[7]:
```
fig = plt.figure(figsize=(12,8), dpi=100)
#fig.patch.set_facecolor('white')

axs = fig.add_gridspec(1, 1)

ax = fig.add_subplot(axs[0, 0])

for dev in devs:
    TEST_LDA = np.linspace( np.maximum(dev.ldamin, 350),
                            np.minimum(dev.ldamax, 800),
```

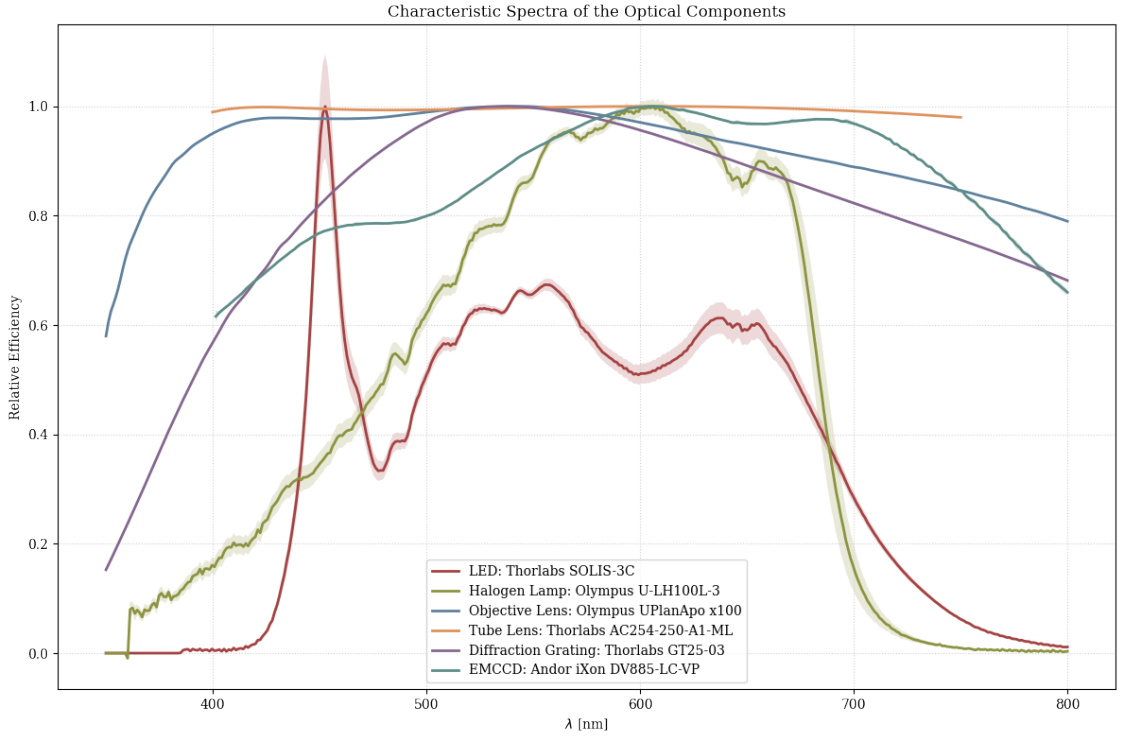
```
                              400 )
    dev_eval = dev.evaluate(TEST_LDA)
    ax.fill_between( TEST_LDA, dev_eval[0]-dev_eval[1],␣
↪dev_eval[0]+dev_eval[1], alpha=plotstyle.err_alpha(), )#color=line[1] )
    ax.plot( TEST_LDA, dev_eval[0], lw=2, label=dev.descr_str() )#color=line[1]␣
↪)

ax.set_title("Characteristic Spectra of the Optical Components")
ax.set_xlabel('$\lambda$ [nm]')
ax.set_ylabel('Relative Efficiency')

ax.legend()

ax.grid(color='lightgrey', linestyle=':')

plt.tight_layout()
plt.show()
```



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