

# filter

April 25, 2017

```
In [18]: # for MATLAB commands
import skrf as rf
%matplotlib inline
from pylab import *
rf.styleley()

from skrf.calibration import SOLT

my_ideals = [
    rf.Network('filter/ideals/load_ideal.s2p'),
    rf.Network('filter/ideals/open_ideal.s2p'),
    rf.Network('filter/ideals/short_ideal.s2p'),
    rf.Network('filter/ideals/thru_ideal.s2p'),
]

my_measured = [
    rf.Network('filter/standards/load_merged.s2p'),
    rf.Network('filter/standards/open_merged.s2p'),
    rf.Network('filter/standards/short_merged.s2p'),
    rf.Network('filter/standards/thru.s2p'),
]

## create a SOLT instance
cal = SOLT(
    ideals = my_ideals,
    measured = my_measured,
)

## check correct calibration
open_ = rf.Network('filter/standards/open_merged.s2p')
open_corr = cal.apply_cal(open_)
short = rf.Network('filter/standards/short_merged.s2p')
short_corr = cal.apply_cal(short)
load = rf.Network('filter/standards/load_merged.s2p')
load_corr = cal.apply_cal(load)
thru = rf.Network('filter/standards/thru.s2p')
thru_corr = cal.apply_cal(thru)
# plot calibration of standards
```

```

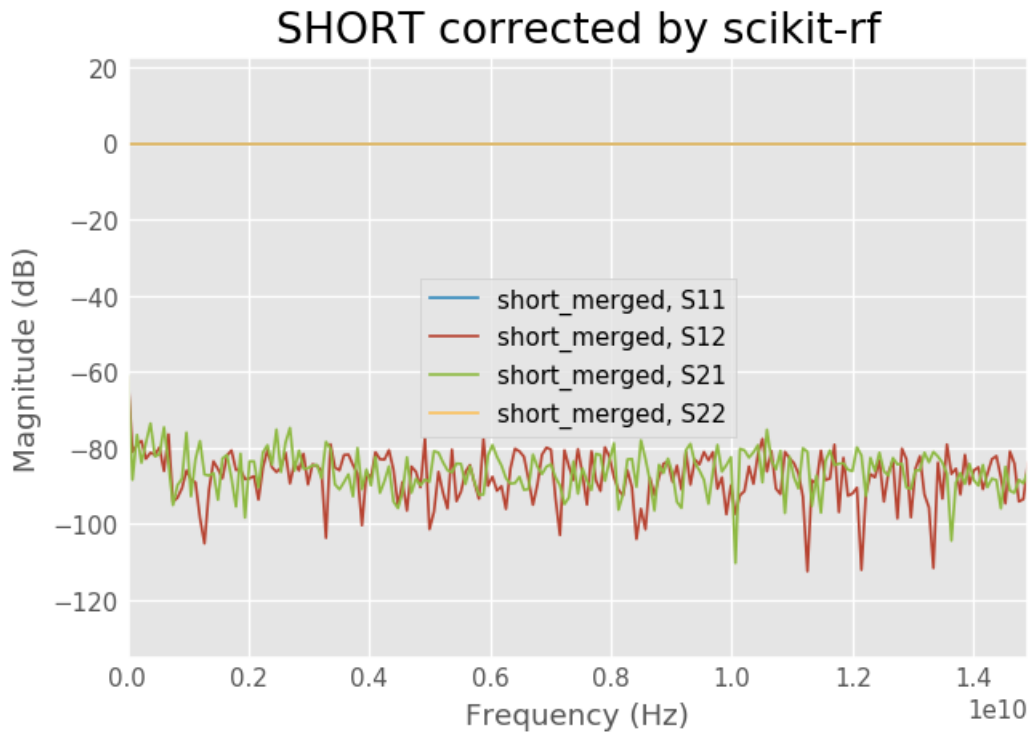
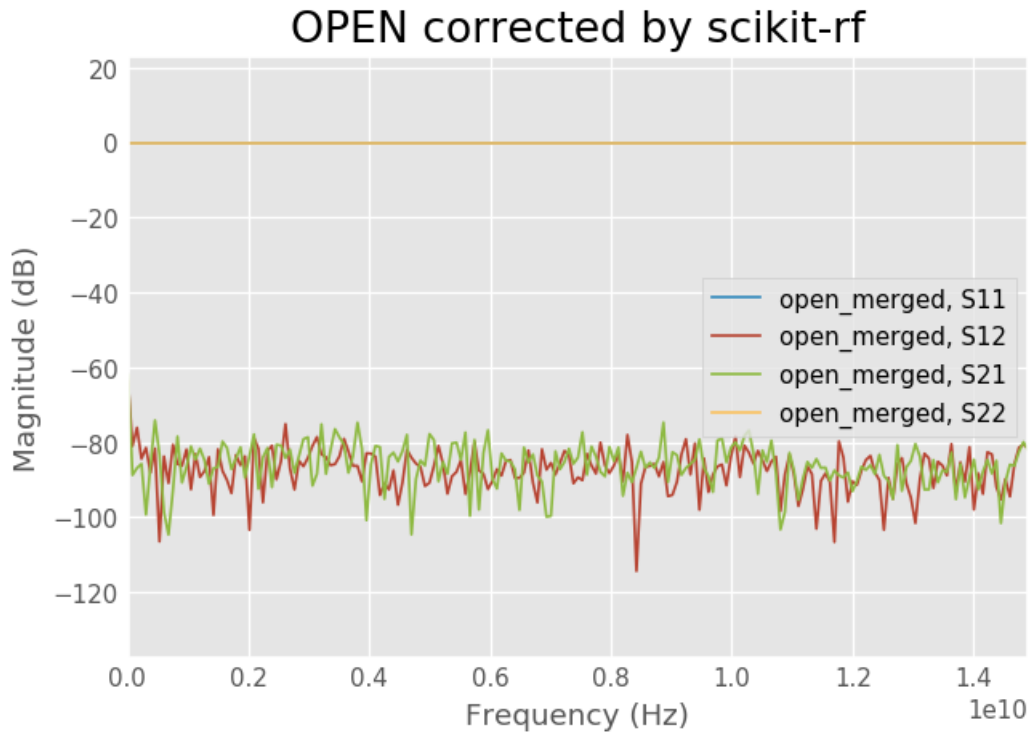
figure(1)
title('OPEN corrected by scikit-rf')
open_corr.plot_s_db()
figure(2)
title('SHORT corrected by scikit-rf')
short_corr.plot_s_db()
figure(3)
title('LOAD corrected by scikit-rf')
load_corr.plot_s_db()
figure(4)
title('THRU corrected by scikit-rf')
thru_corr.plot_s_db()

# run calibration algorithm
cal.run()

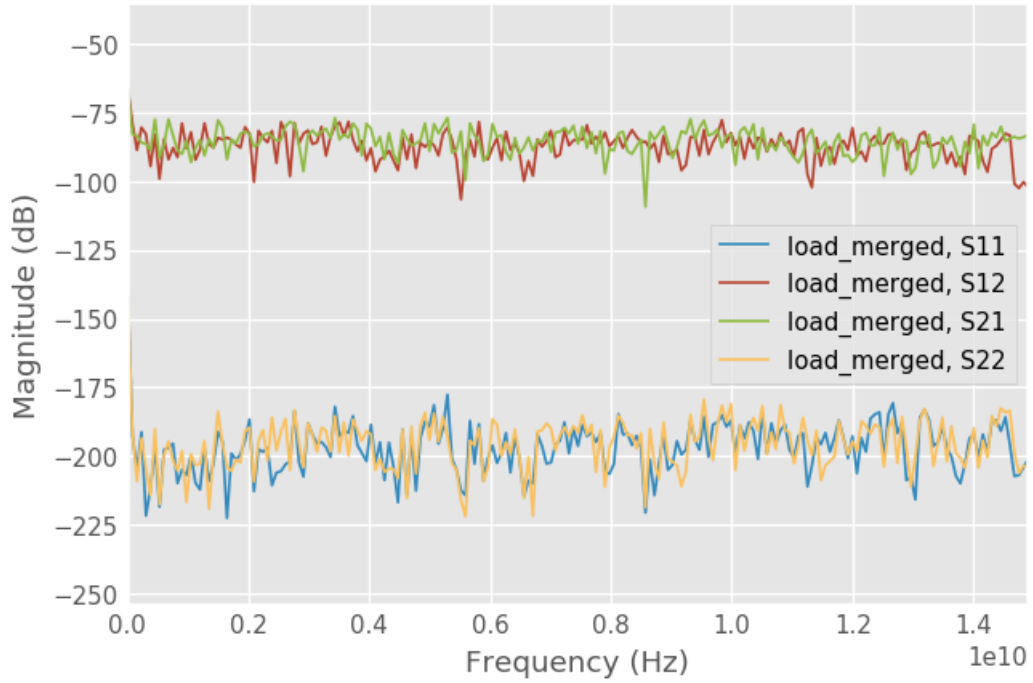
# -----
# filter 6
filter_6 = rf.Network('filter/filter_6/filter_6_ok.s2p')
filter_6_corr = cal.apply_cal(filter_6)
filter_6_mk = Network('filter/filter_6/filter_6_mk.s2p')
filter_6_ok = Network('filter/filter_6/filter_6_ok.s2p')
figure(5)
title('filter 6 corrected by VNA')
filter_6_mk.plot_s_db()
figure(6)
title('filter 6 corrected by scikit-rf')
filter_6_corr.plot_s_db()
# -----
# filter 8
filter_8 = rf.Network('filter/filter_8/filter_8_ok.s2p')
filter_8_corr = cal.apply_cal(filter_8)
filter_8_mk = Network('filter/filter_8/filter_8_mk.s2p')
figure(7)
title('filter 8 corrected by VNA')
filter_8_mk.plot_s_db()
figure(8)
title('filter 8 corrected by scikit-rf')
filter_8_corr.plot_s_db()
# -----
# filter 9
filter_9 = rf.Network('filter/filter_9/filter_9_ok.s2p')
filter_9_corr = cal.apply_cal(filter_9)
filter_9_mk = Network('filter/filter_9/filter_9_mk.s2p')
figure(9)
title('filter 9 corrected by VNA')
filter_9_mk.plot_s_db()
figure(10)

```

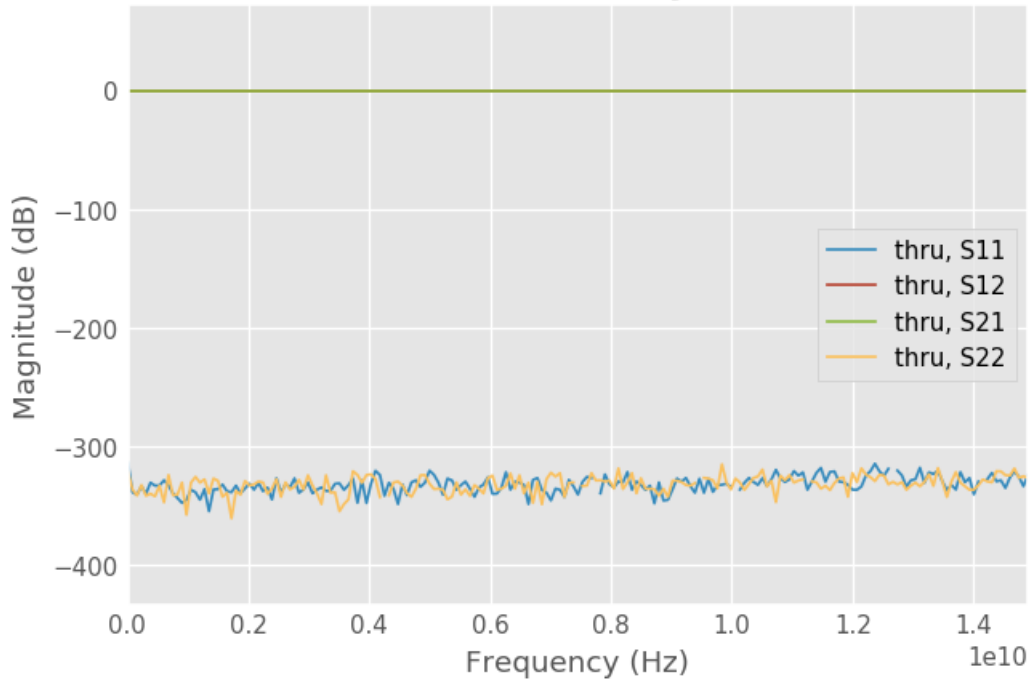
```
title('filter 9 corrected by scikit-rf')
filter_9_corr.plot_s_db()
```

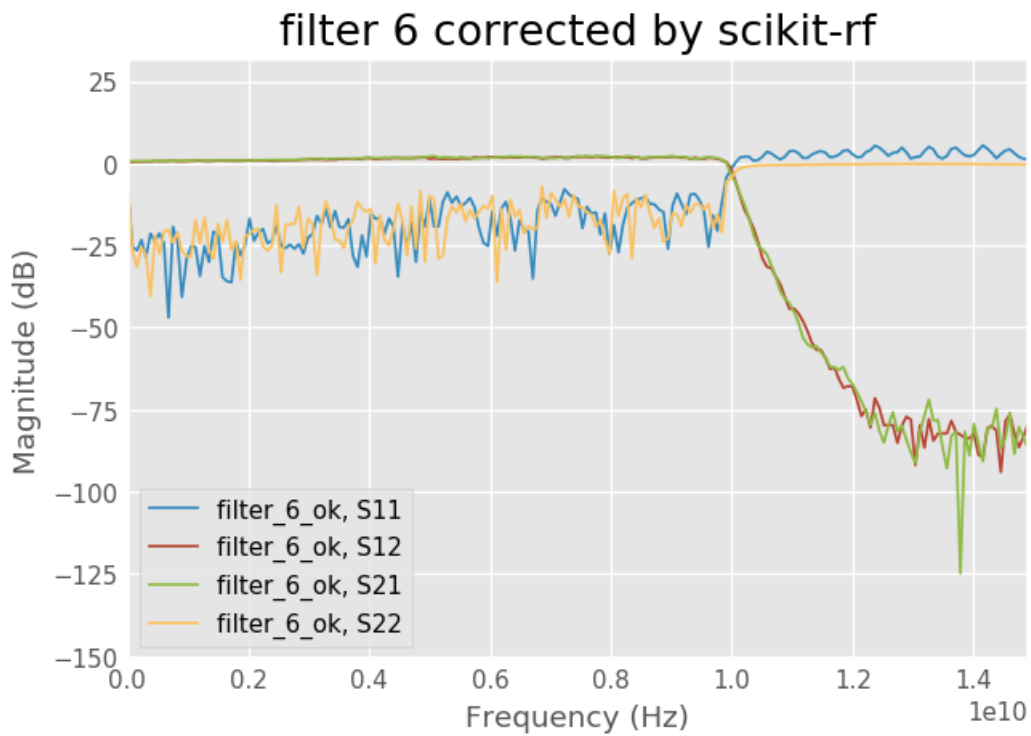
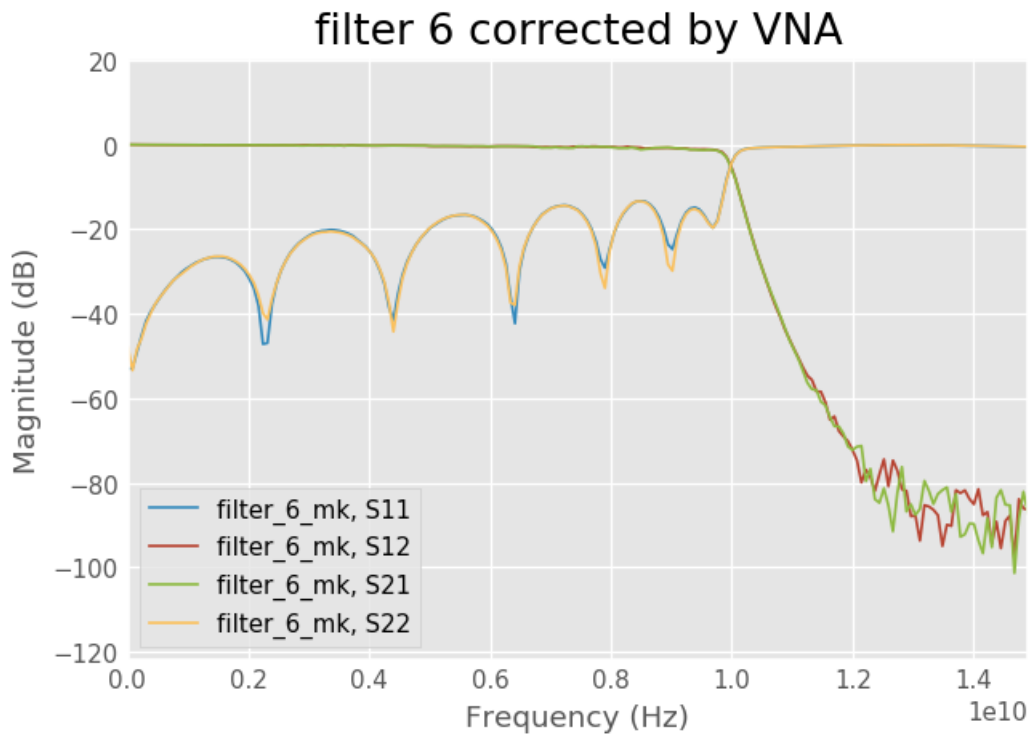


### LOAD corrected by scikit-rf

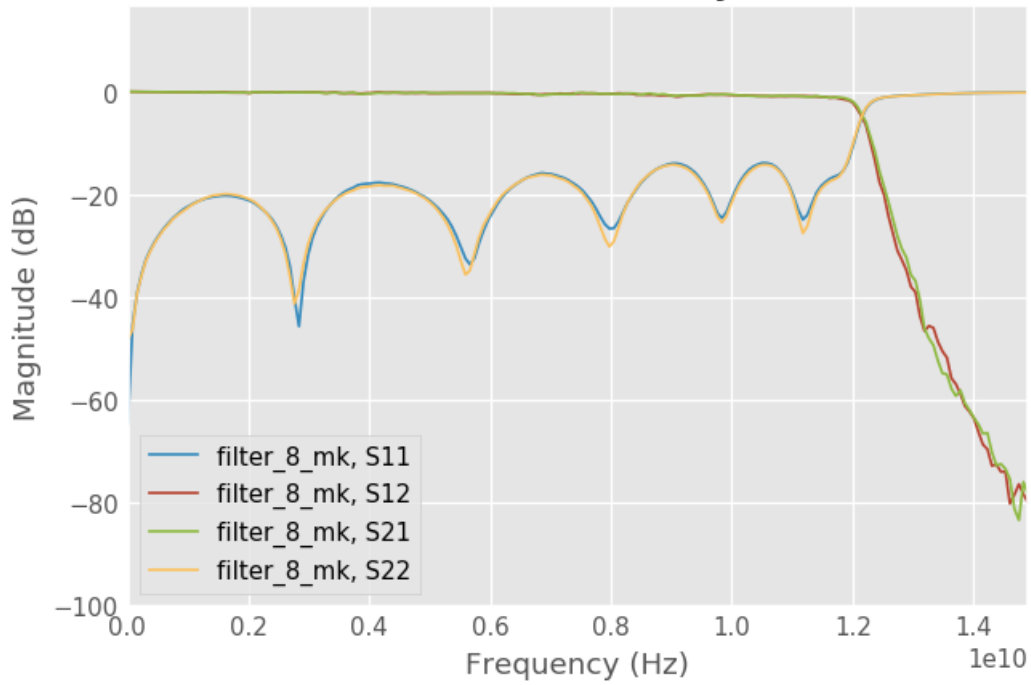


### THRU corrected by scikit-rf

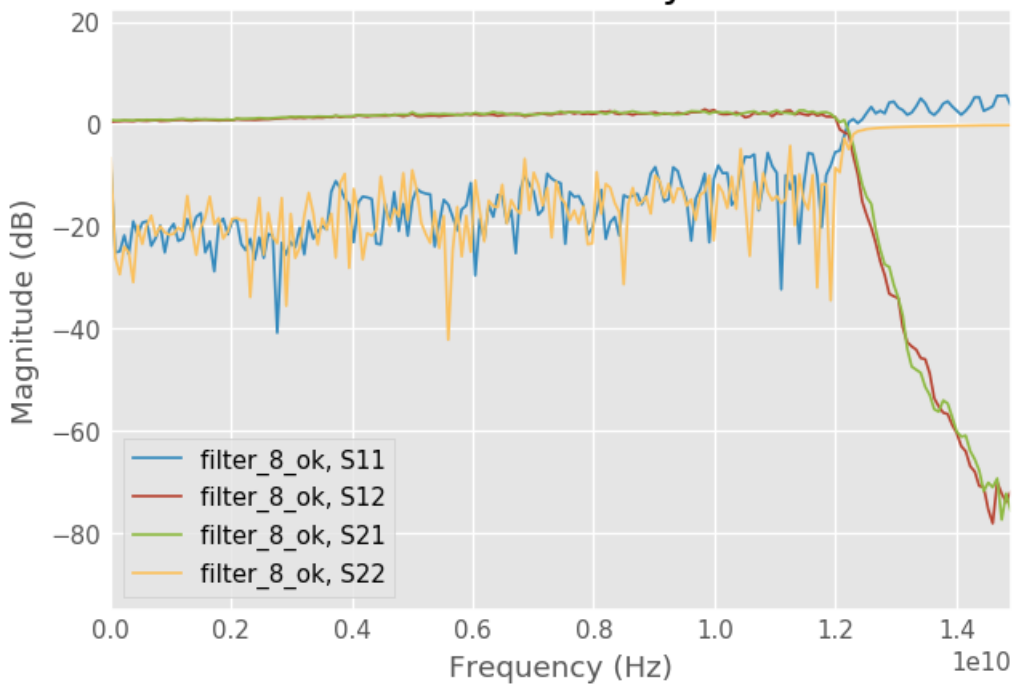




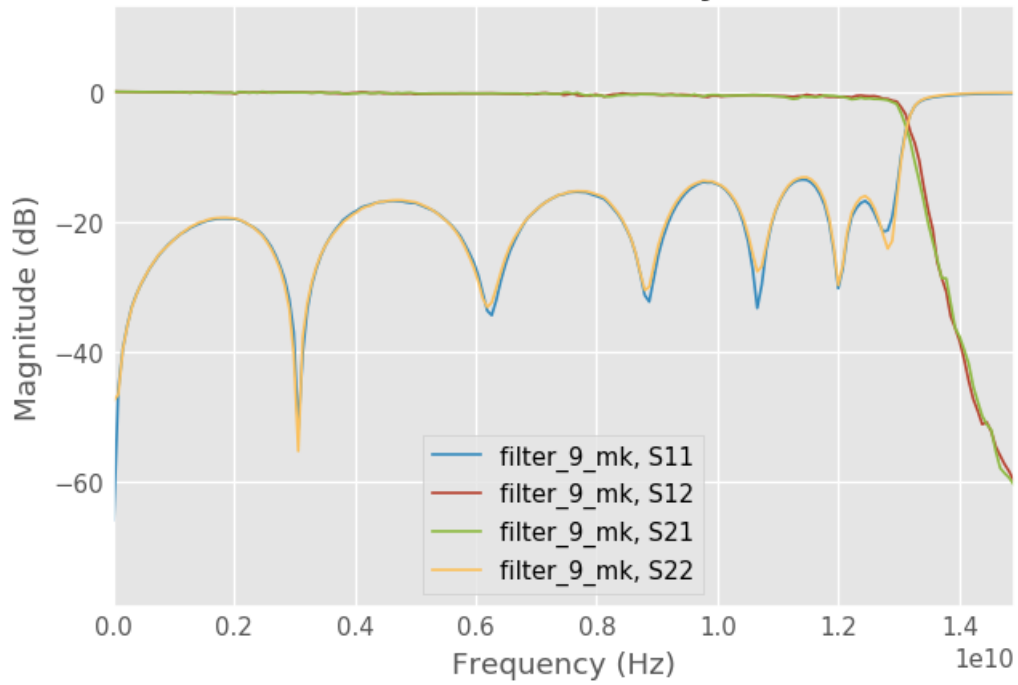
filter 8 corrected by VNA



filter 8 corrected by scikit-rf



### filter 9 corrected by VNA



### filter 9 corrected by scikit-rf

