

A comparison of previously calrep files and new calrep

In [1]:

```
# imports
import os
from pyMeasure import *

Importing Code.Utils.Names
Importing Code.DataHandlers.NISTModels
Importing Code.DataHandlers.GeneralModels
Importing Code.DataHandlers.TouchstoneModels
Importing Code.DataHandlers.XMLModels
Importing Code.DataHandlers.RadiCALModels
Importing Code.DataHandlers.ZipModels
Importing Code.DataHandlers.Translations
Importing Code.DataHandlers.StatisticalModels
Importing Code.DataHandlers.MUFModels
Importing Code.Analysis.SParameter
Importing Code.InstrumentControl.Instruments
Importing Code.InstrumentControl.Experiments
```

In [2]:

```
raw_two_port_121399=TwoPortRawModel(os.path.join(r"C:\Share\Ck_Std_raw_ascii",'CTN208.L26_121399'))
# Here I change the metadata to make it a type N
raw_two_port_121399.metadata["Connector Type Measurement"]="N"
new_calrep_two_port=calrep(raw_two_port_121399)
old_calrep_two_port=TwoPortCalrepModel(os.path.join(r"C:\Share\ascii.dut\2014",'CTN208.asc'))
```

In [3]:

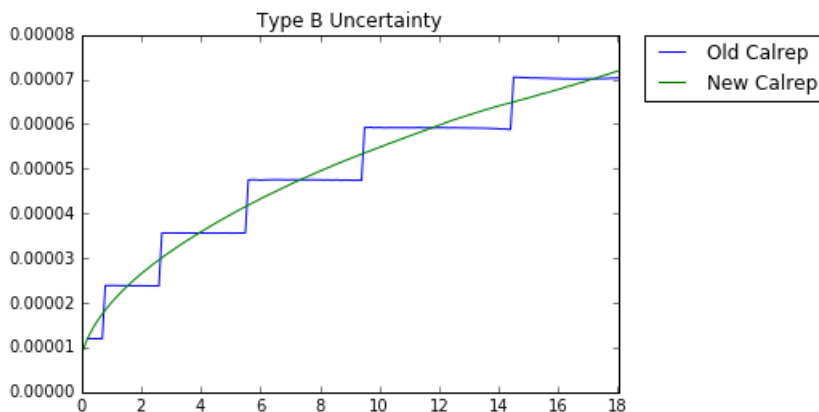
```
a=plot_calrep_comparision([old_calrep_two_port,new_calrep_two_port])
```

In [27]:

```
%matplotlib inline
#old_calrep.joined_table.column_names
type_b_figure=plt.figure("Type B Uncertainty")
plt.plot(old_calrep_two_port.joined_table["Frequency"],old_calrep_two_port.joined_table["uBs21"],label="Old Calrep")
plt.plot(new_calrep_two_port["Frequency"],np.array(new_calrep_two_port["uBs21"]),label="New Calrep")
plt.legend(bbox_to_anchor=(1.05, 1), loc=2, borderaxespad=0.)
plt.title("Type B Uncertainty")
```

Out[27]:

<matplotlib.text.Text at 0x140a5438>



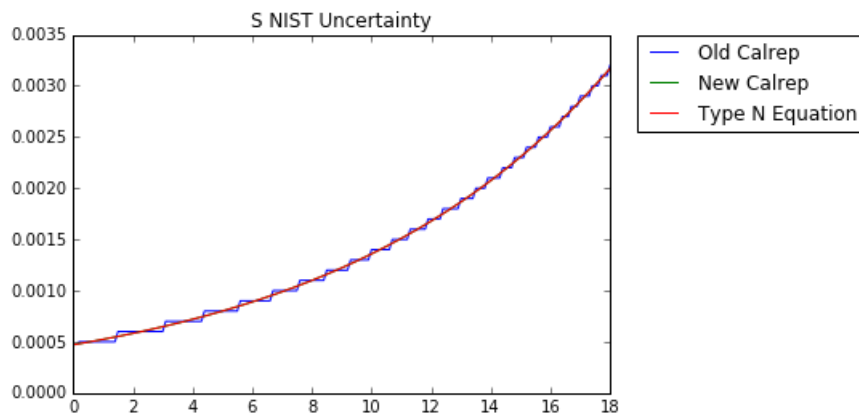
In [26]:

```
SNIST_figure=plt.figure("SNIST")
plt.plot(old_calrep_two_port.joined_table["Frequency"],old_calrep_two_port.joined_table["uMaS11"],label="Old Calrep")
plt.plot(new_calrep_two_port["Frequency"],np.array(new_calrep_two_port["uMaS11"]),label="New Calrep")
frequency=np.array(new_calrep_two_port["Frequency"])
plt.plot(frequency,10.0**(-3.327+.046*frequency), label="Type N Equation")
```

```
plt.legend(bbox_to_anchor=(1.05, 1), loc=2, borderaxespad=0.)
plt.title("S NIST Uncertainty")
```

Out[26]:

<matplotlib.text.Text at 0x13e7df60>

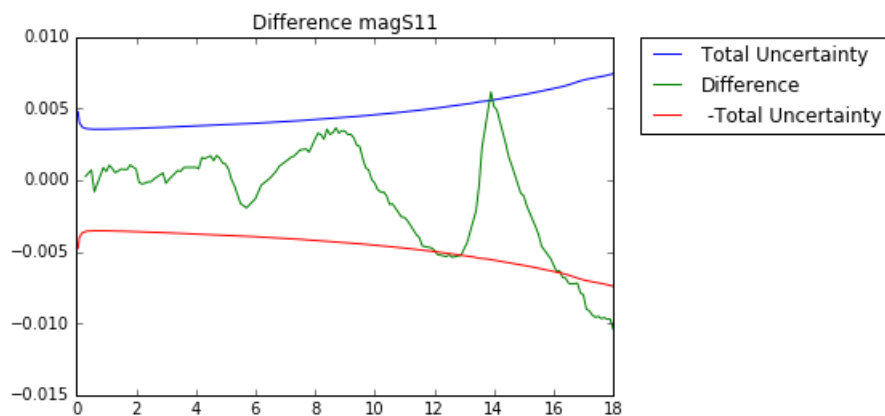


In [6]:

```
difference=frequency_model_difference(new_calrep_two_port,old_calrep_two_port.joined_table)
plt.plot(new_calrep_two_port["Frequency"],np.array(new_calrep_two_port["uMgS11"]),label="Total Uncertainty")
plt.plot(difference["Frequency"],difference["magS11"],label="Difference")
plt.plot(new_calrep_two_port["Frequency"],-1*np.array(new_calrep_two_port["uMgS11"]),label="-Total Uncertainty")
plt.legend(bbox_to_anchor=(1.05, 1), loc=2, borderaxespad=0.)
plt.title("Difference magS11")
```

Out[6]:

<matplotlib.text.Text at 0x11a4d278>

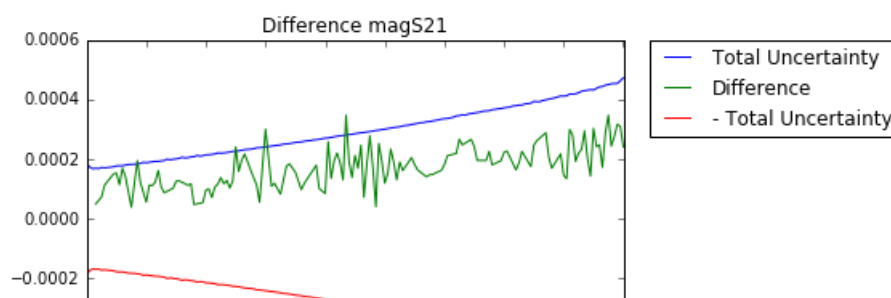


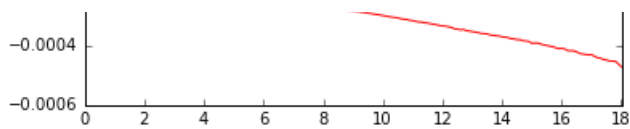
In [7]:

```
plt.plot(new_calrep_two_port["Frequency"],np.array(new_calrep_two_port["uMgS21"]),label="Total Uncertainty")
plt.plot(difference["Frequency"],difference["magS21"],label="Difference")
plt.plot(new_calrep_two_port["Frequency"],-1*np.array(new_calrep_two_port["uMgS21"]),label="- Total Uncertainty")
plt.legend(bbox_to_anchor=(1.05, 1), loc=2, borderaxespad=0.)
plt.title("Difference magS21")
```

Out[7]:

<matplotlib.text.Text at 0x11bcd8a8>



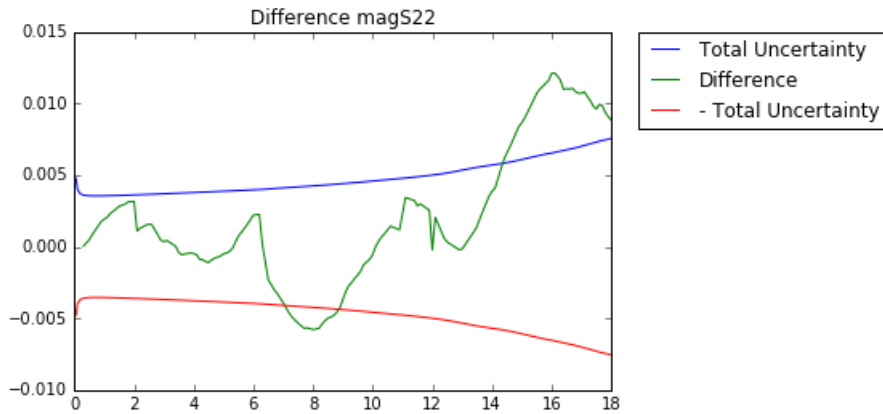


In [8]:

```
plt.plot(new_calrep_two_port["Frequency"], np.array(new_calrep_two_port["uMgS22"]), label="Total Uncertainty")
plt.plot(difference["Frequency"], difference["magS22"], label="Difference")
plt.plot(new_calrep_two_port["Frequency"], -1*np.array(new_calrep_two_port["uMgS22"]), label="- Total Uncertainty")
plt.legend(bbox_to_anchor=(1.05, 1), loc=2, borderaxespad=0.)
plt.title("Difference magS22")
```

Out[8]:

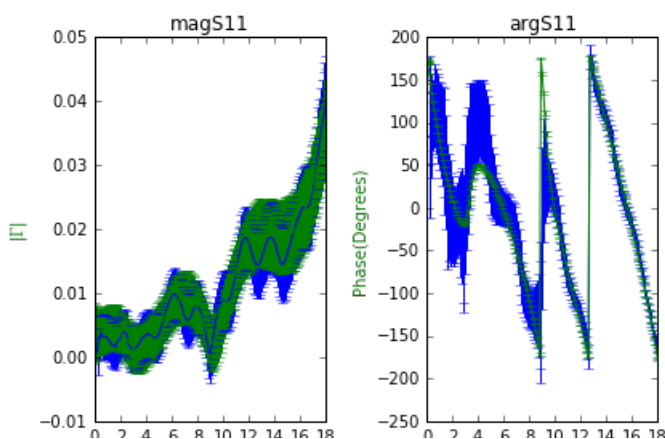
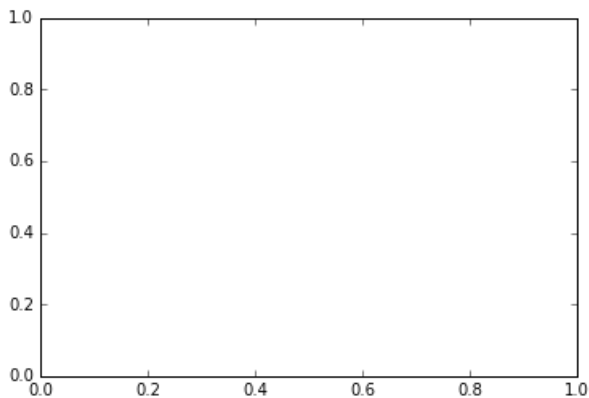
<matplotlib.text.Text at 0x11e049b0>



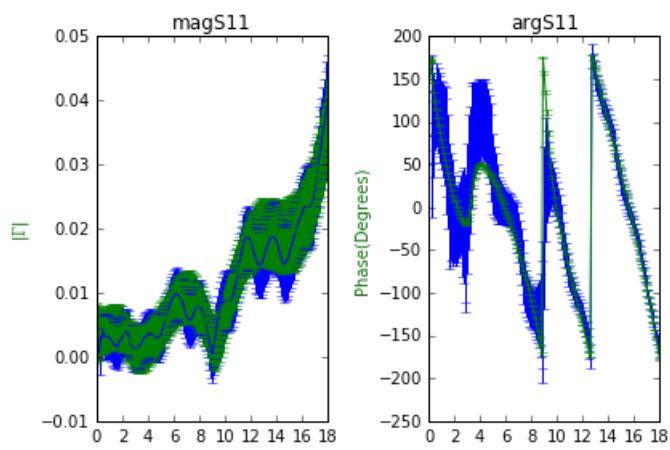
In [9]:

```
plt.hold(False)
plt.close()
old_calrep=OnePortCalrepModel(os.path.join(r"C:\Share\ascii.dut\2014", 'CTN102.asc'))
raw=OnePortRawModel(os.path.join(r"C:\Share\Ck_Std_raw_ascii", 'CTN102.R5_061913'))
new_calrep=calrep(raw)
plot_calrep_comparision([old_calrep, new_calrep])
```

The self.metadata["Device_Id"] variable is CTN102



Out[9]:



In [10]:

```
from pyMeasure.Code.DataHandlers.GraphModels import *
```

In [11]:

```
image_graph=ImageGraph()
```