

Material Properties

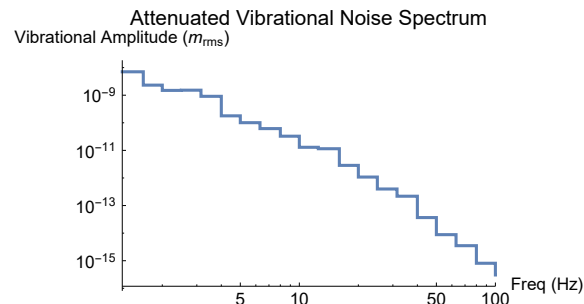
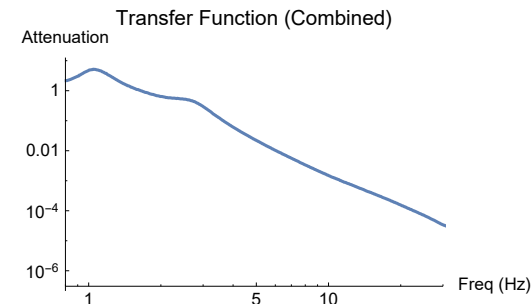
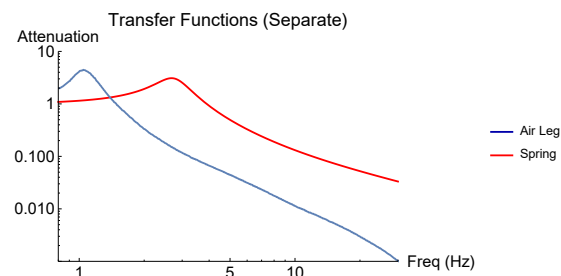
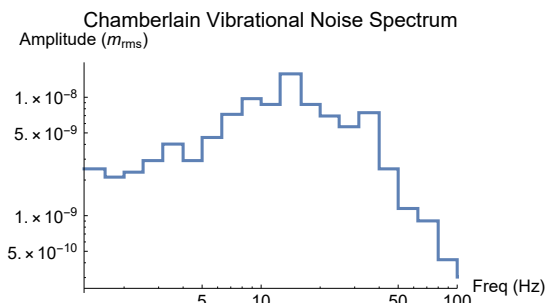
Setup

Applications

#	Material
1	Spring (Music - Wire Steel, 1/2 " unstretched, 5108N176)
2	Spring (Music - Wire Steel, 1 " unstretched, 5108N917)
3	Spring (Music - Wire Steel, 6 * 1/2 " unstretched, 5108N917)
4	Spring (Plastic, 1 " unstretched, 2017N123)
5	Spring (Beryllium Copper, 1 mm wire, 15 mm OD, 15 turns)
6	Spring (Brass, 1 mm wire, 15 mm OD, 15 turns)
7	Spring (Carbon Steel, 0.9 mm wire, 15 mm OD, 15 turns)
8	Hydrogel (acrylamide gel, 15 cm long, 1 cm area)

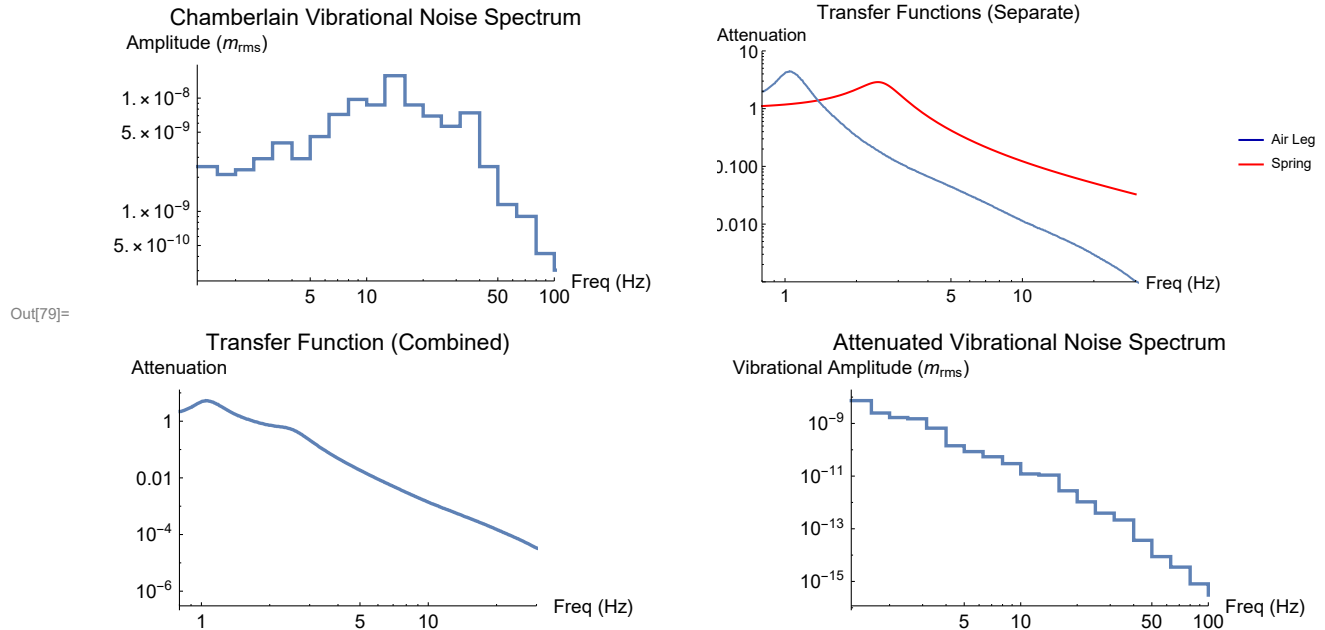
Spring (Music-Wire Steel, 1/2” unstretched, 5108N176)

In[243]:= `plt1 = Magnify[outputTransferFunction[
QuantityMagnitude[UnitConvert[59.5 lbf/ft, "Newtons"/"Meters"]], 3], 1]`



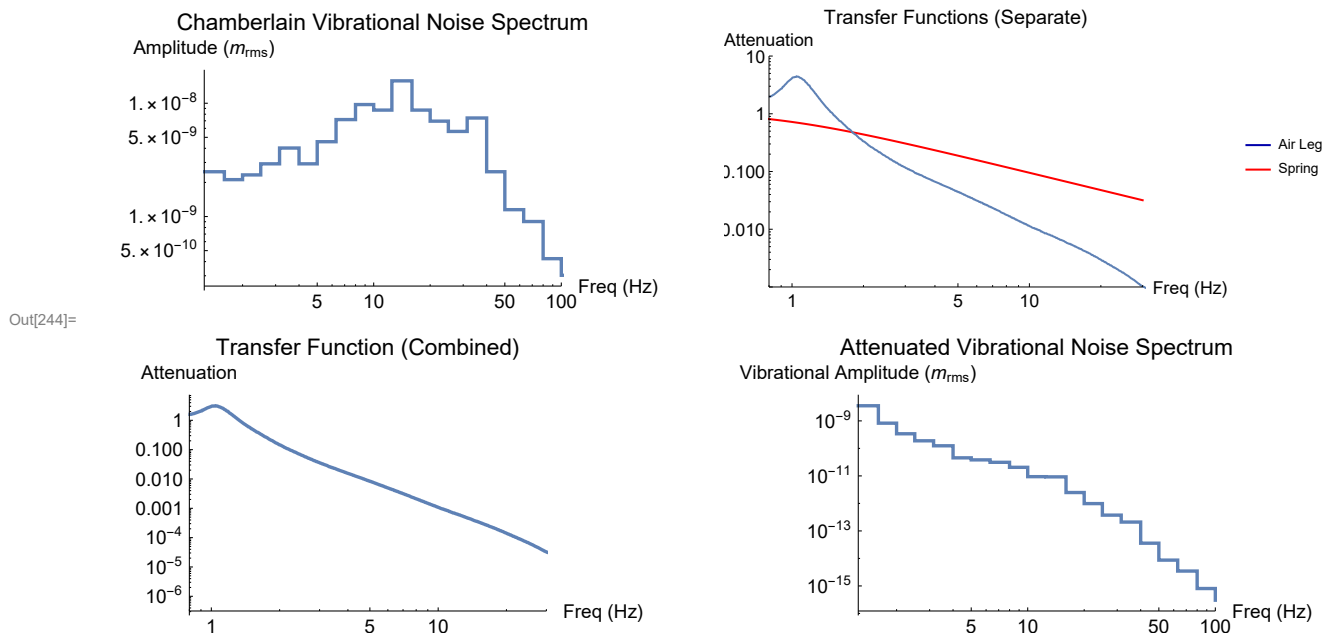
Spring (Music-Wire Steel, 1" unstretched, 5108N917)

```
In[79]:= plt2 = Magnify[outputTransferFunction [
  QuantityMagnitude[UnitConvert[ 50.7 lbf/ft , "Newtons" / "Meters"]], 3], 1.1]
```



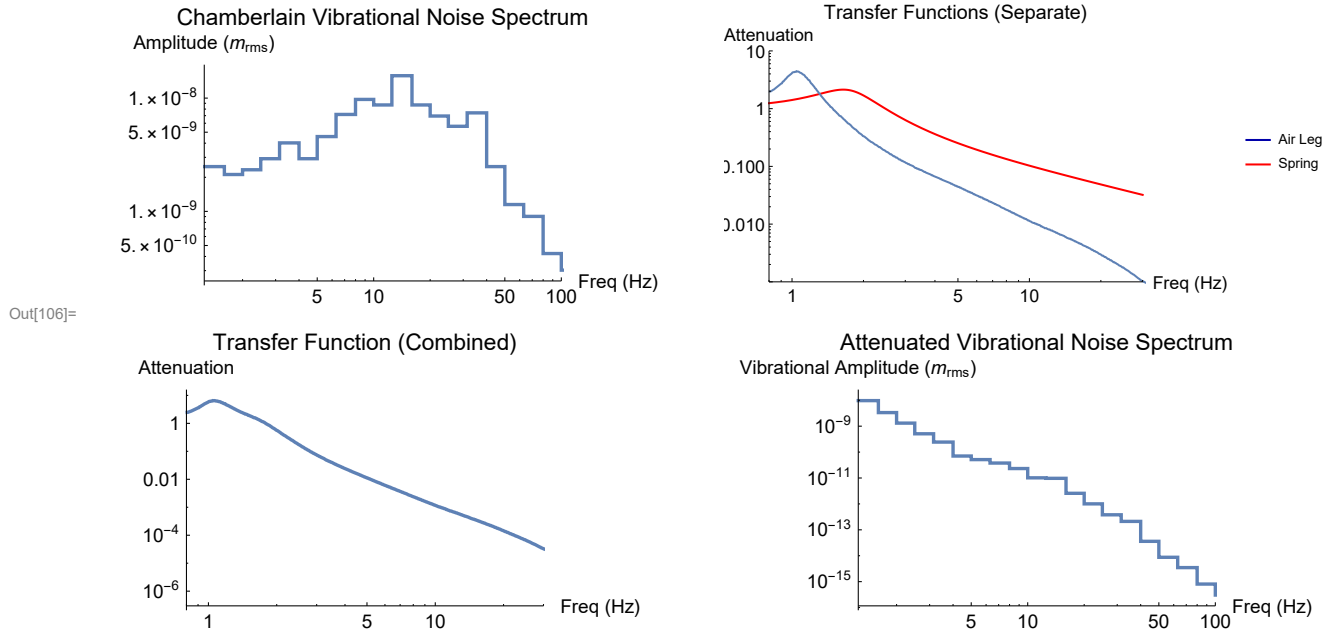
Spring (Zinc-Plated Steel, 6 1/2" unstretched, 9654K563)

```
In[244]:= plt3 = Magnify[outputTransferFunction [
  QuantityMagnitude[UnitConvert[ 0.62 lbf/ft , "Newtons" / "Meters"]], 3], 1.1]
```



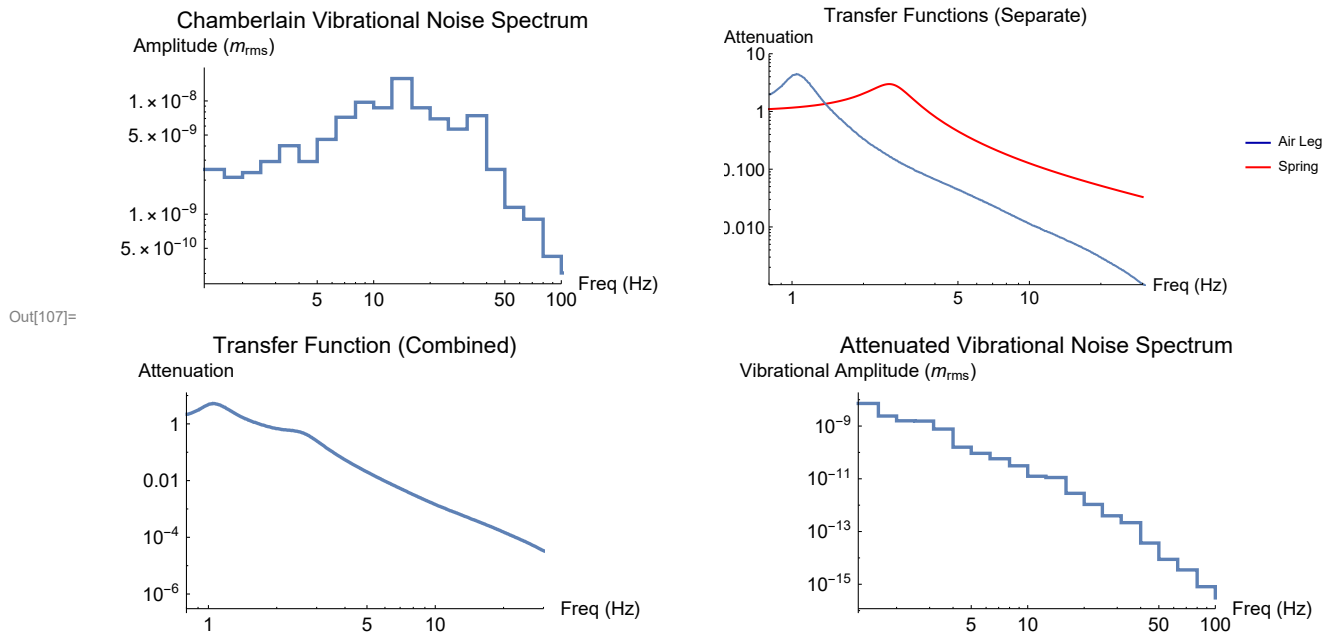
Spring (Plastic, 1" unstretched, 2017N123)

```
In[106]:= plt4 = Magnify[outputTransferFunction [
  QuantityMagnitude[UnitConvert[ 23.98 lbf/ft , "Newtons" / "Meters"]], 3], 1.1]
```



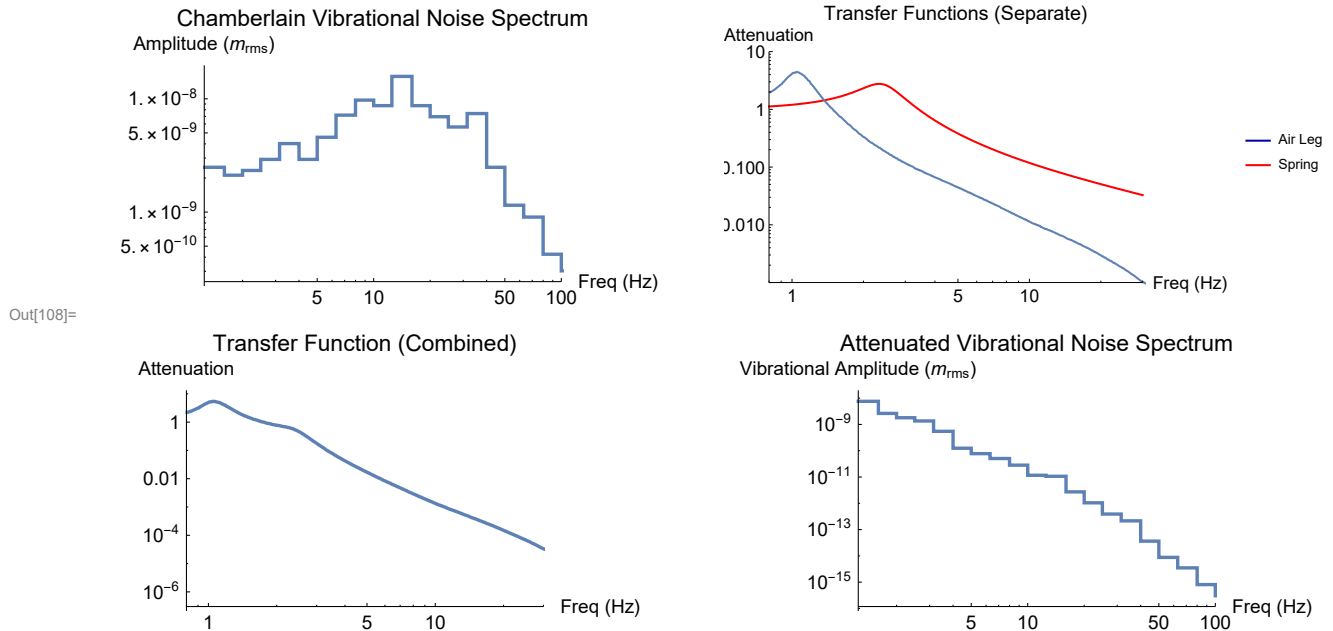
Spring (Beryllium Copper, 1 mm wire, 15 mm OD, 15 turns)

```
In[107]:= plt5 = Magnify[outputTransferFunction [kS[10^-3, 1 * 10^-2, 15, 48 * 10^9], 3], 1.1]
```



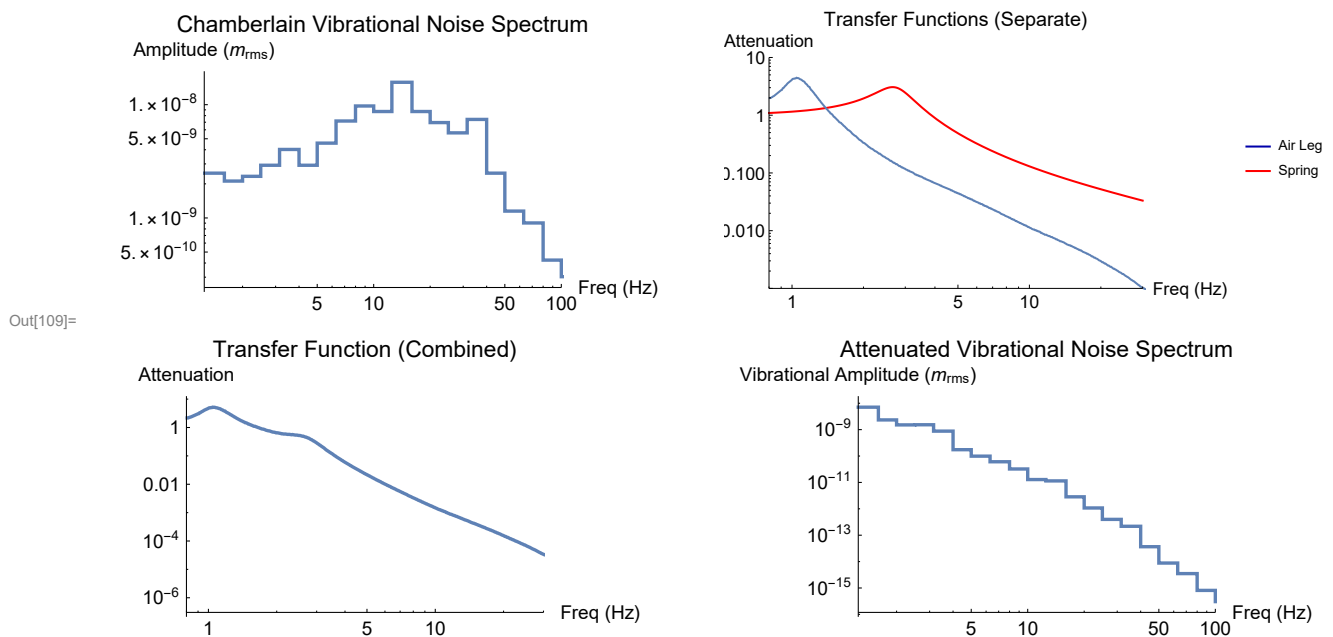
Spring (Brass, 1 mm wire, 15 mm OD, 15 turns)

```
In[108]:= plt6 = Magnify[outputTransferFunction[kS[10-3, 1 * 10-2, 15, 40 * 109], 3], 1.1]
```



Spring (Carbon Steel, 0.9 mm wire, 15 mm OD, 15 turns)

```
In[109]:= plt7 = Magnify[outputTransferFunction[kS[0.9 * 10-3, 1 * 10-2, 15, 78 * 109], 3], 1.1]
```



Hydrogel (acrylamide gel, 15 cm long, 1 cm area)

```
In[110]:= plt8 = Magnify[outputTransferFunction[konst[1 * 10-6, 1, 15], 3], 1.1]
```

Out[110]=

