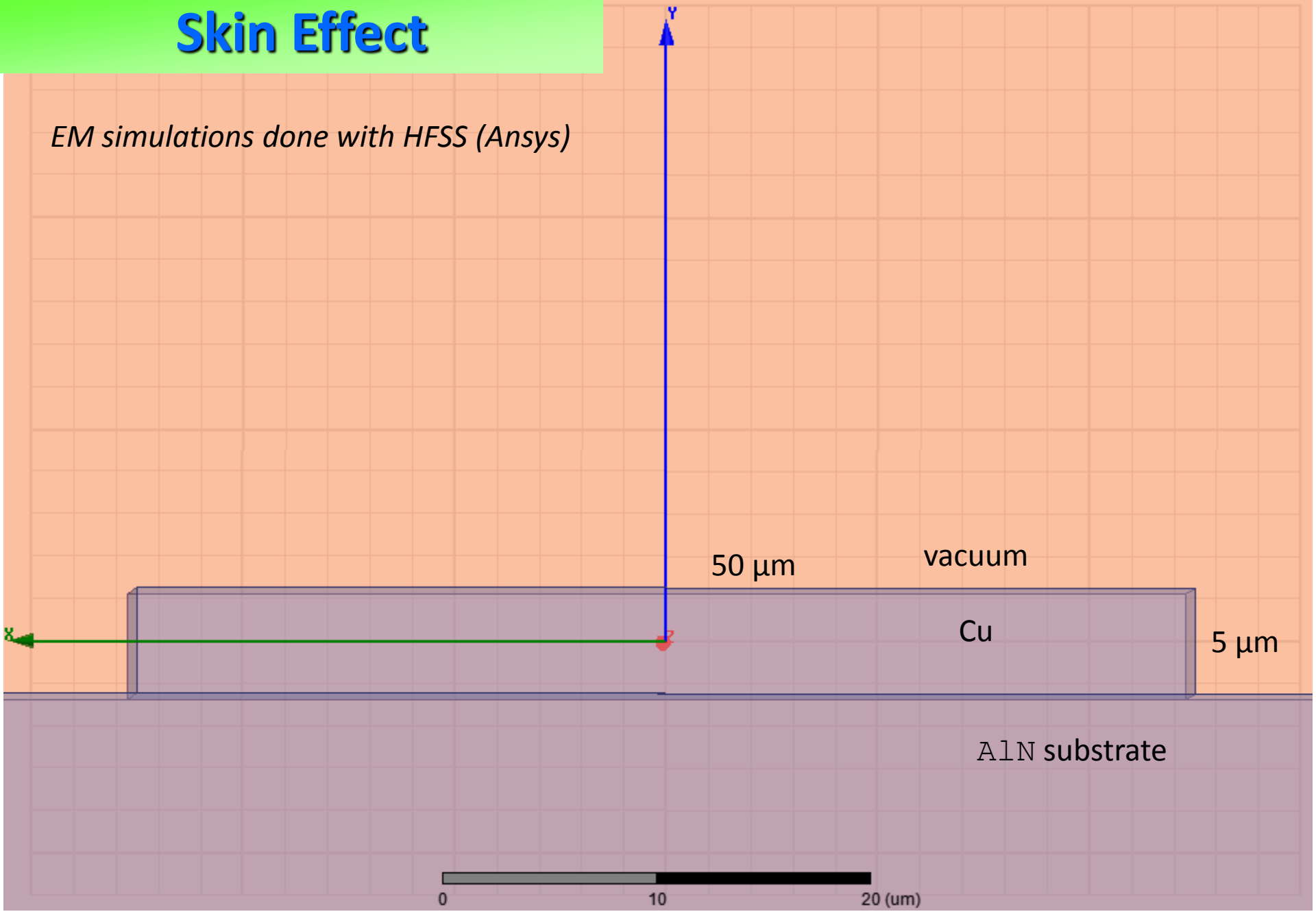
NASA Langley Research Center

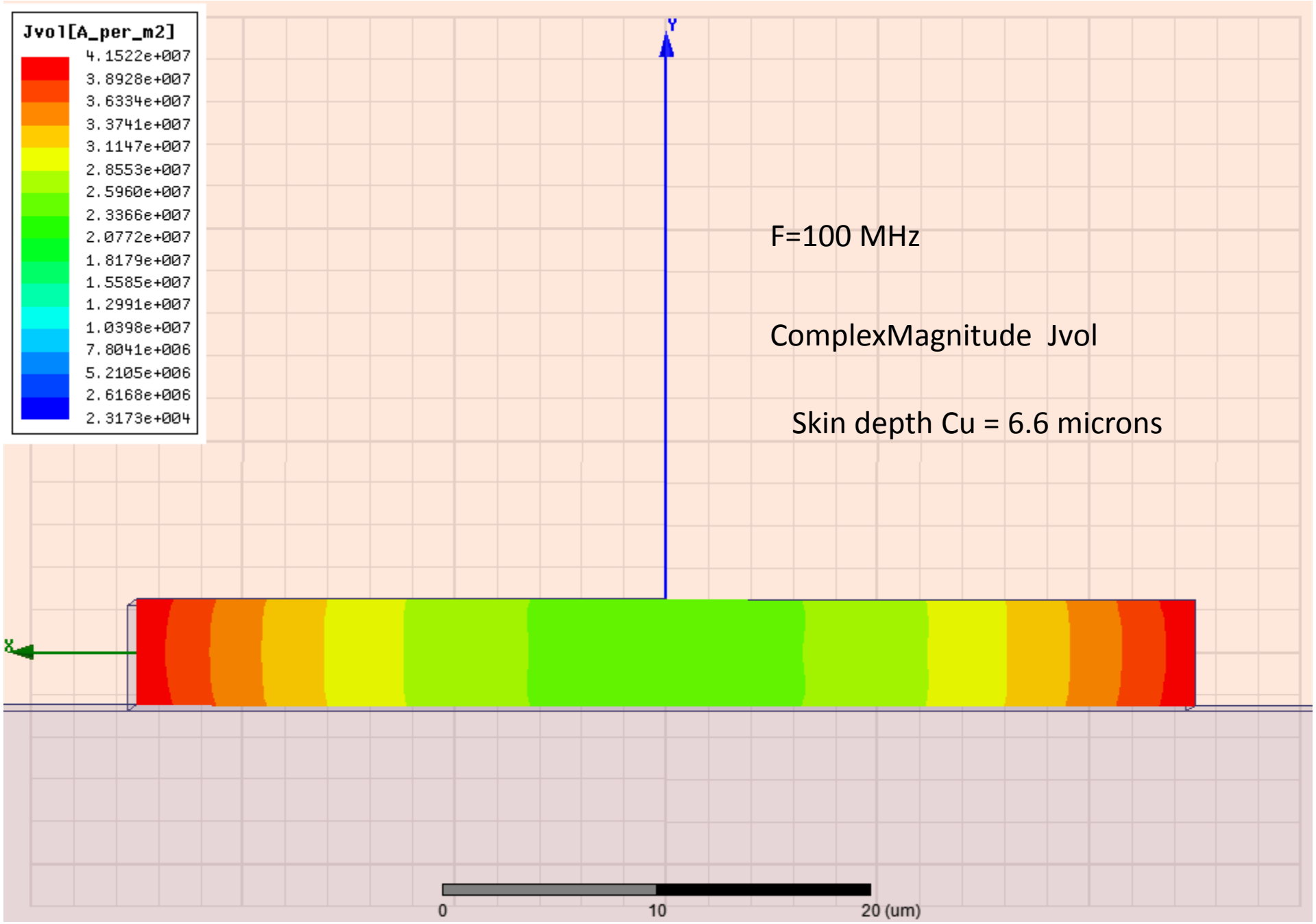
Information Session

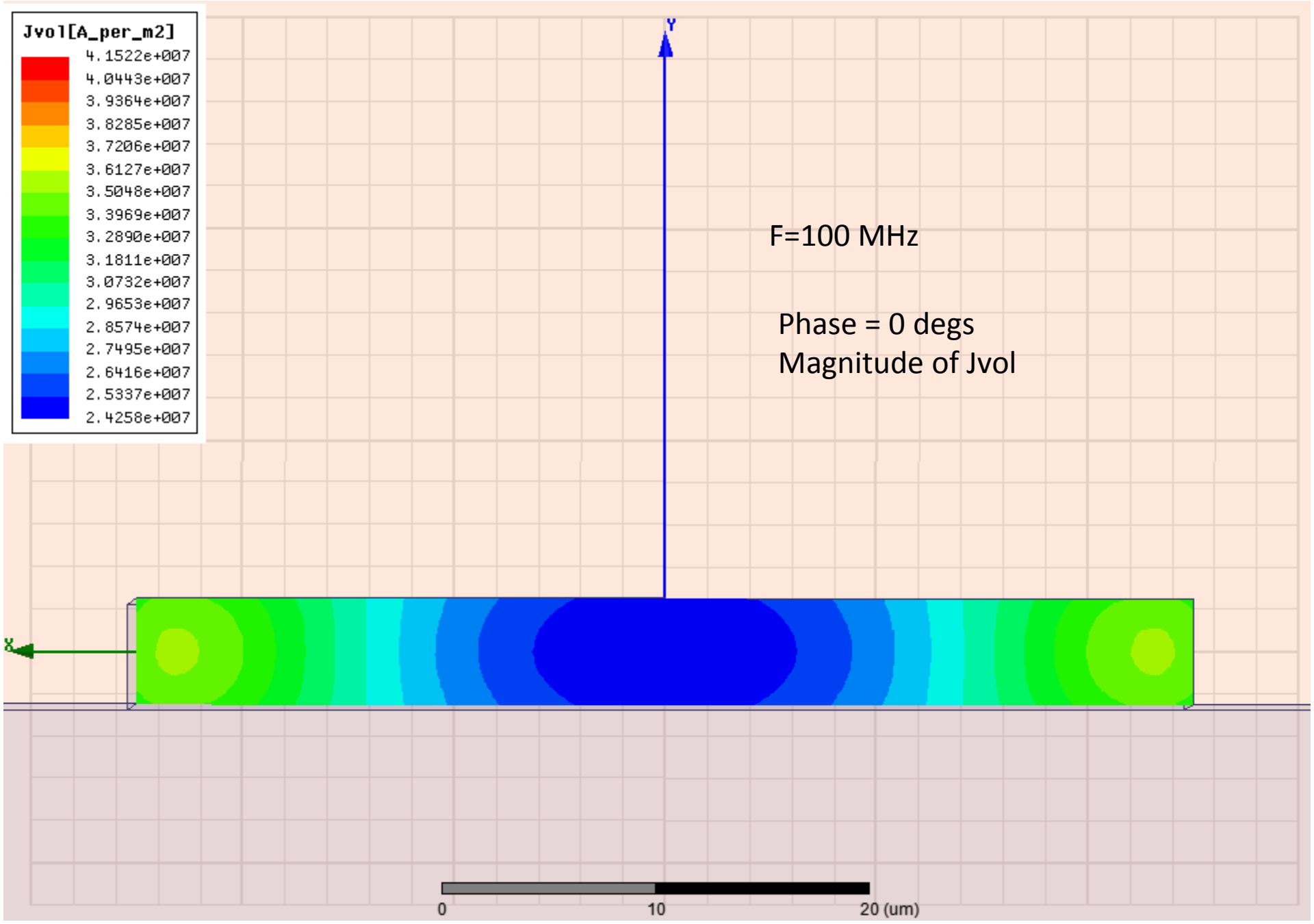
Wednesday, September 16, 2015
5:30pm - 6:30pm
Cohen Career Center

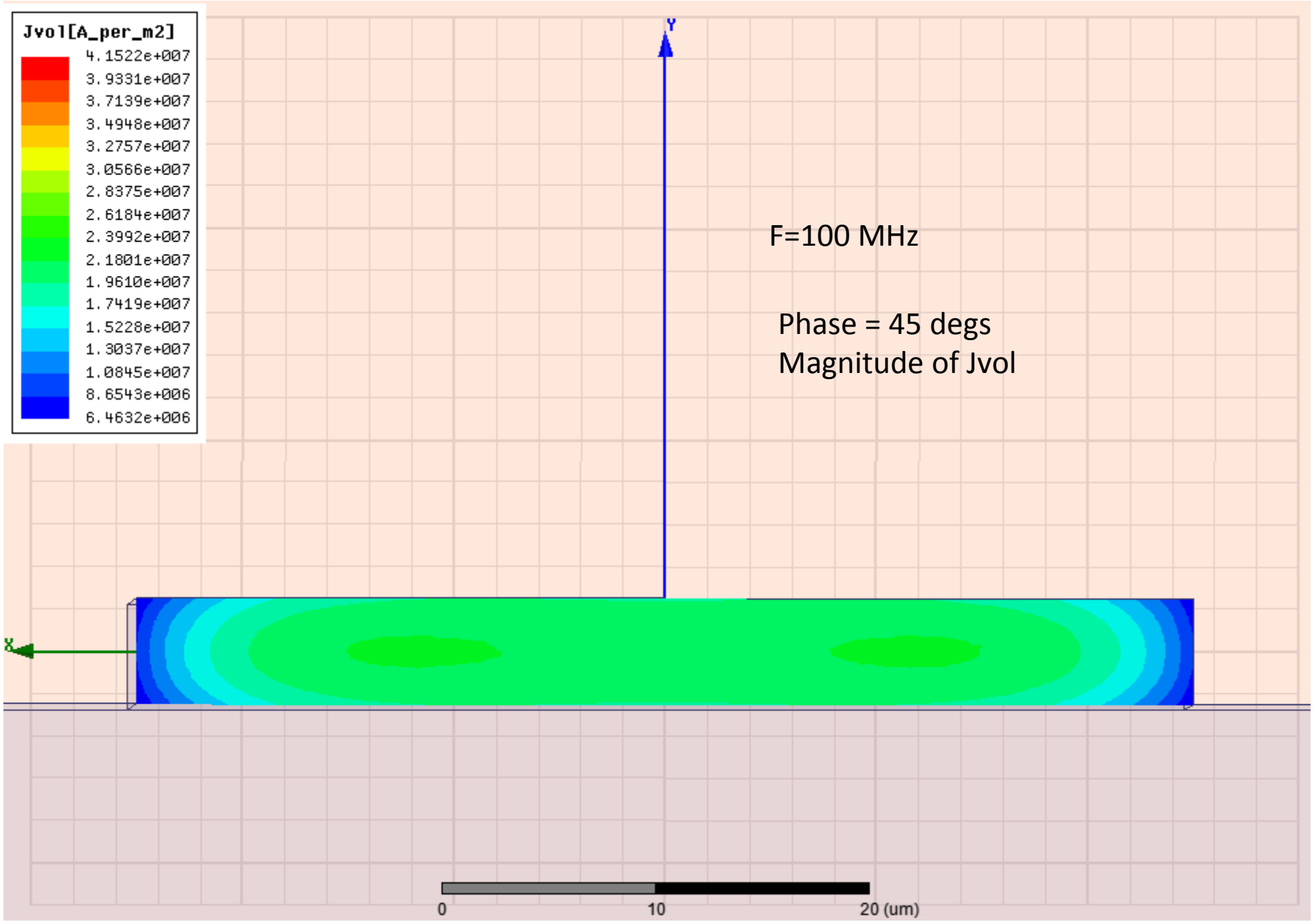
Skin Effect

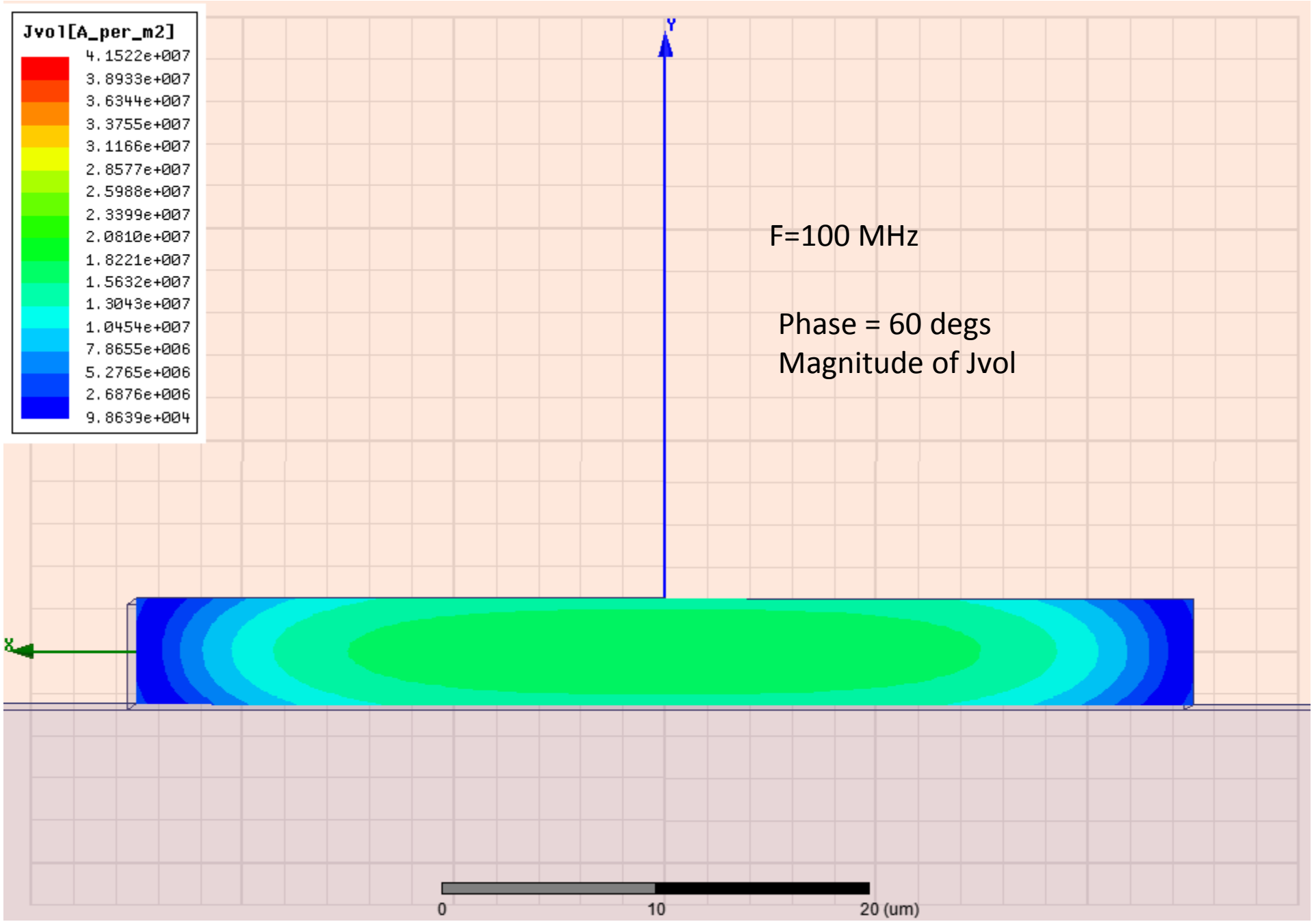
EM simulations done with HFSS (Ansys)

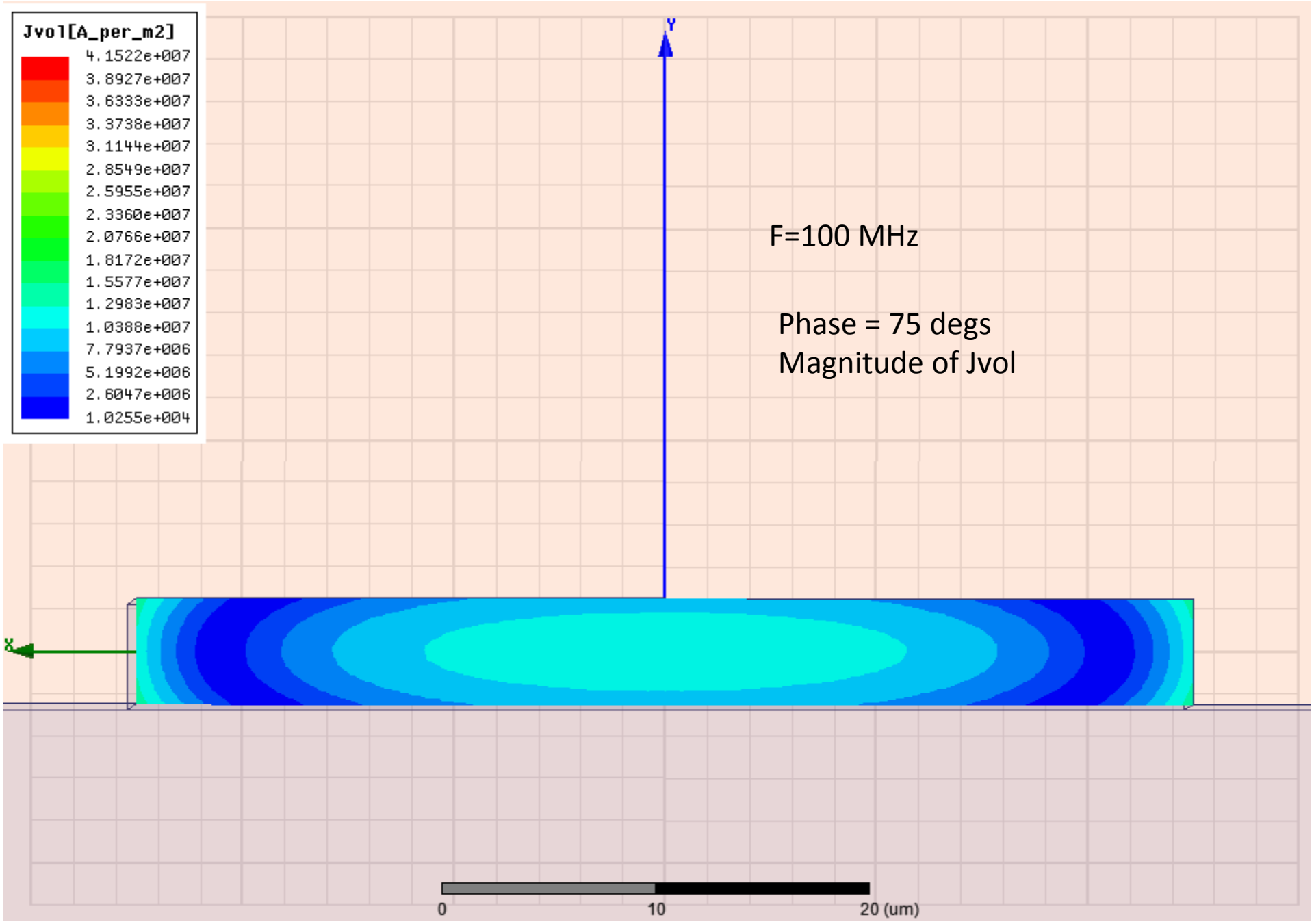


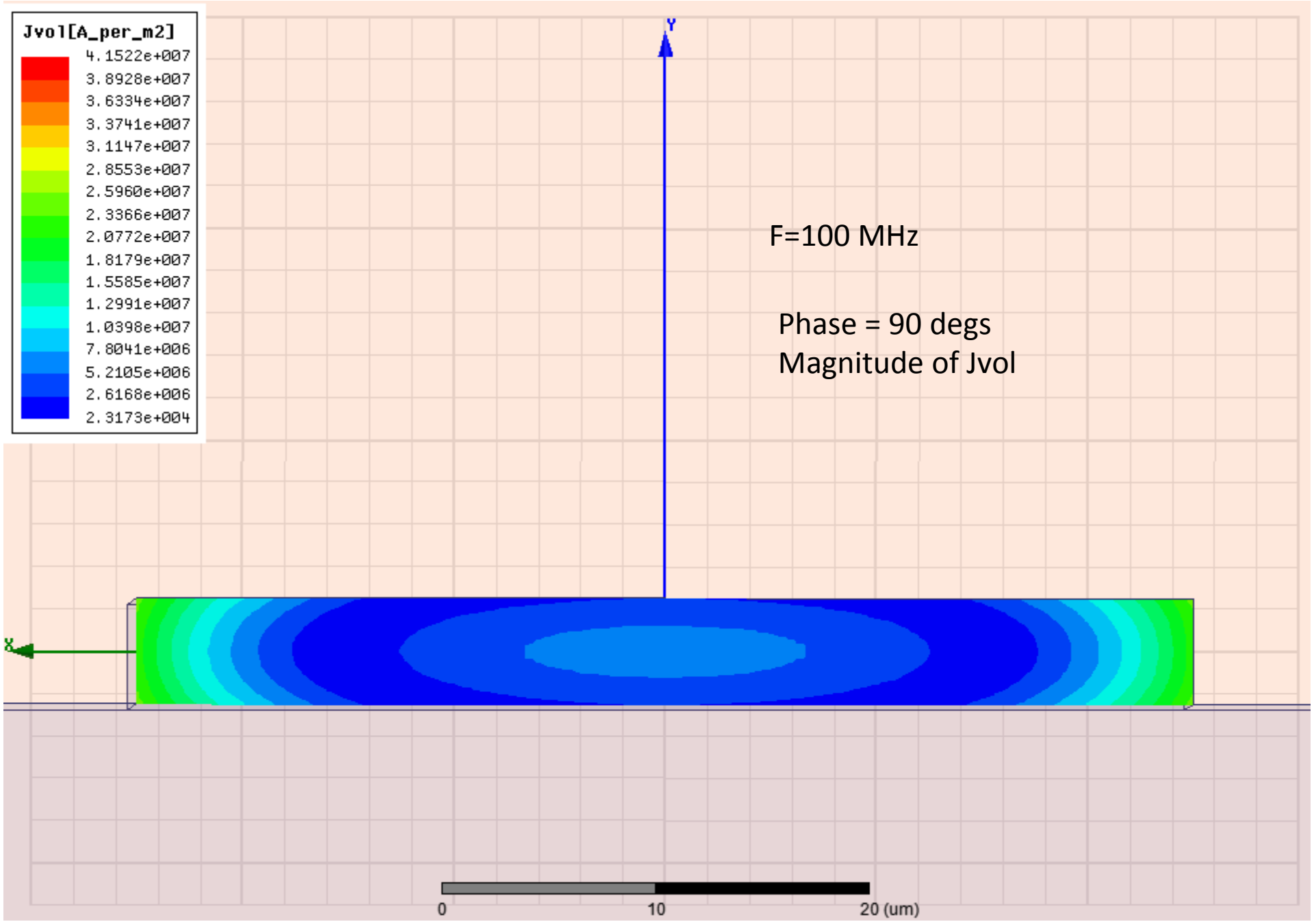

Jvol[A_per_m2]
4.1522e+007
3.8928e+007
3.6334e+007
3.3741e+007
3.1147e+007
2.8553e+007
2.5960e+007
2.3366e+007
2.0772e+007
1.8179e+007
1.5585e+007
1.2991e+007
1.0398e+007
7.8041e+006
5.2105e+006
2.6168e+006
2.3173e+004
Y
X
F=100 MHz
ComplexMagnitude Jvol
Skin depth Cu = 6.6 microns
0
10
20 (um)

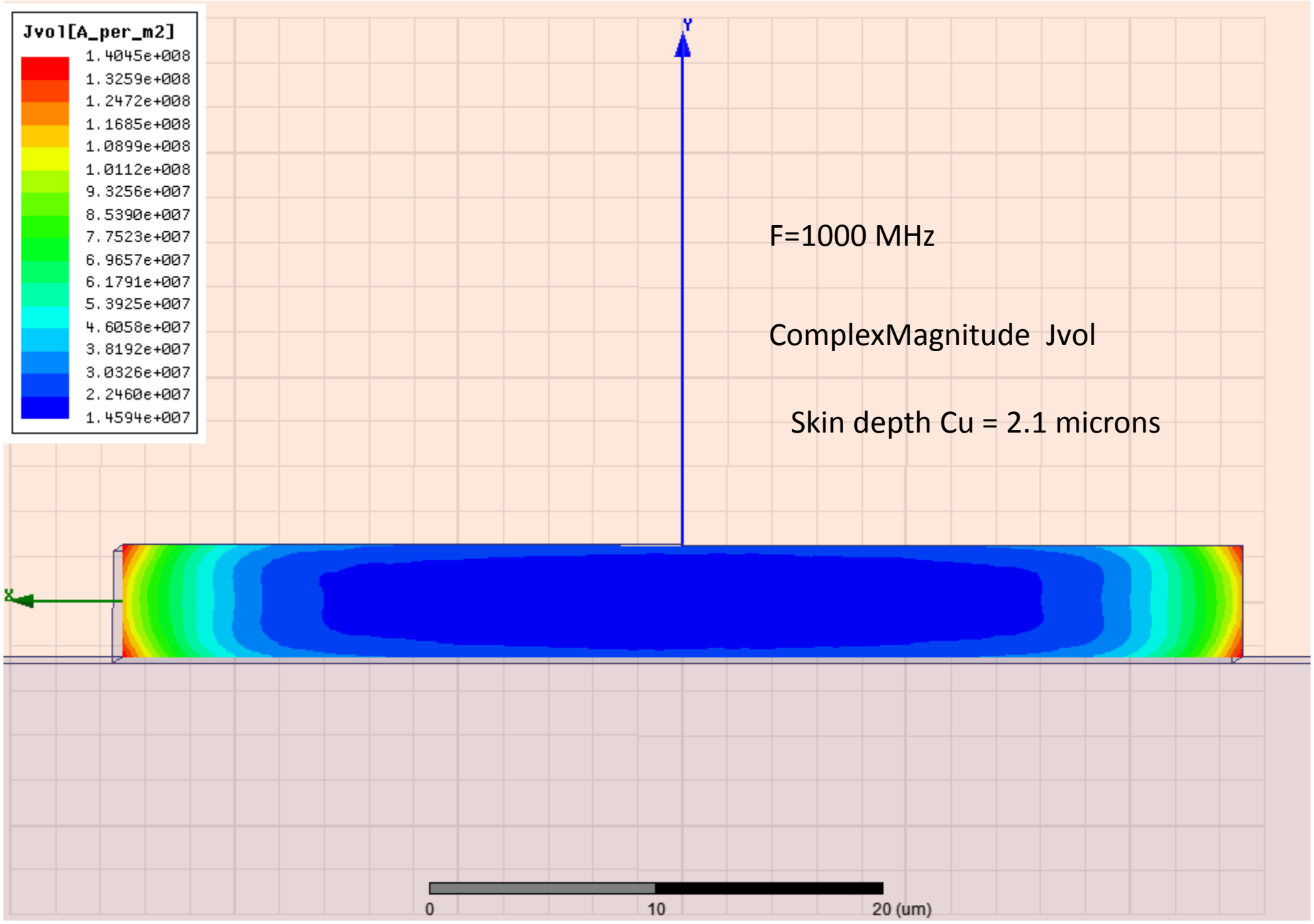

Jvol[A_per_m2]
4.1522e+007
4.0443e+007
3.9364e+007
3.8285e+007
3.7206e+007
3.6127e+007
3.5048e+007
3.3969e+007
3.2890e+007
3.1811e+007
3.0732e+007
2.9653e+007
2.8574e+007
2.7495e+007
2.6416e+007
2.5337e+007
2.4258e+007
Y
X
F=100 MHz
Phase = 0 degs
Magnitude of Jvol
0
10
20 (um)

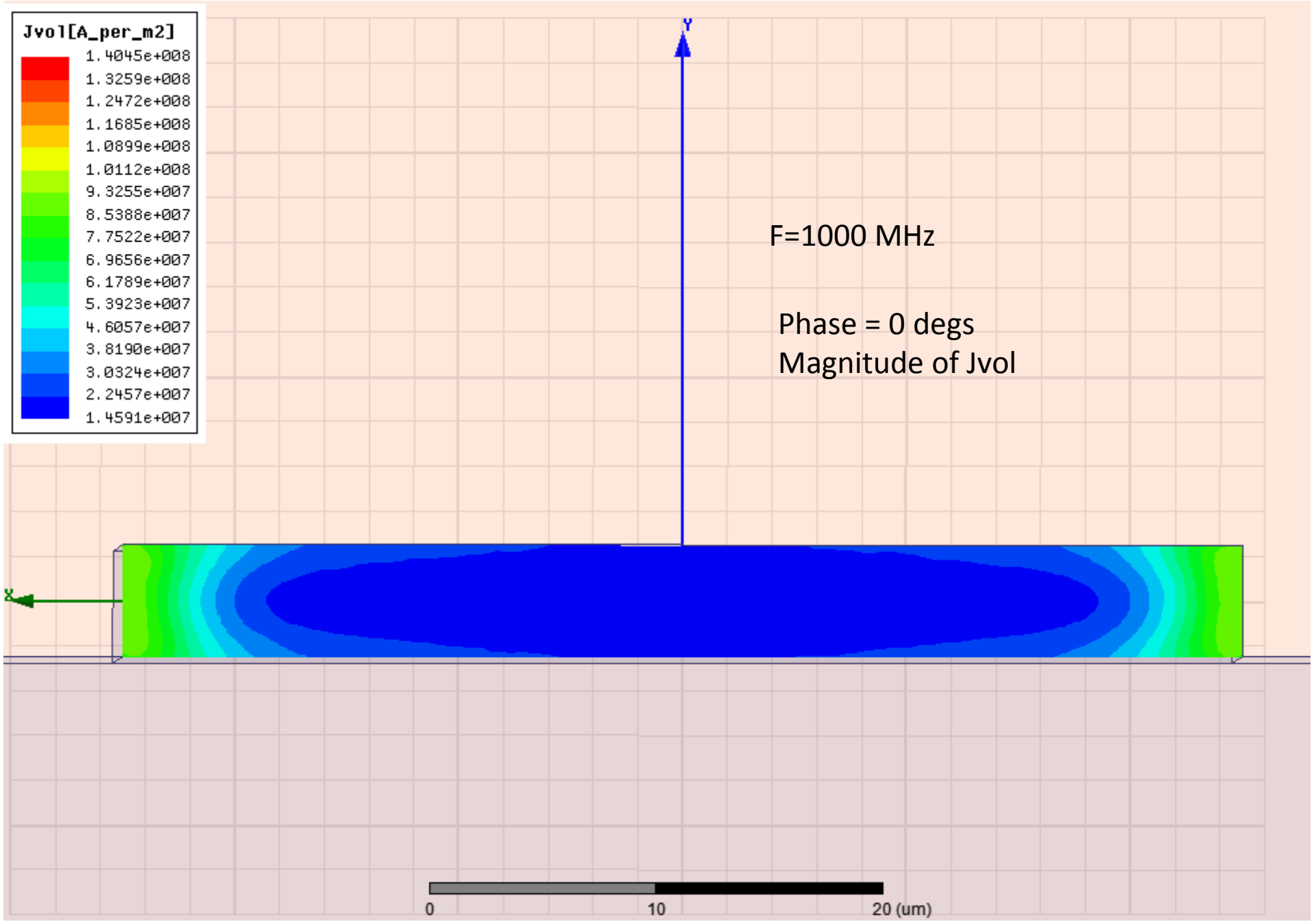

Jvol[A_per_m2]
4.1522e+007
3.9331e+007
3.7139e+007
3.4948e+007
3.2757e+007
3.0566e+007
2.8375e+007
2.6184e+007
2.3992e+007
2.1801e+007
1.9610e+007
1.7419e+007
1.5228e+007
1.3037e+007
1.0845e+007
8.6543e+006
6.4632e+006
Y
X
F=100 MHz
Phase = 45 degs
Magnitude of Jvol
0
10
20 (um)

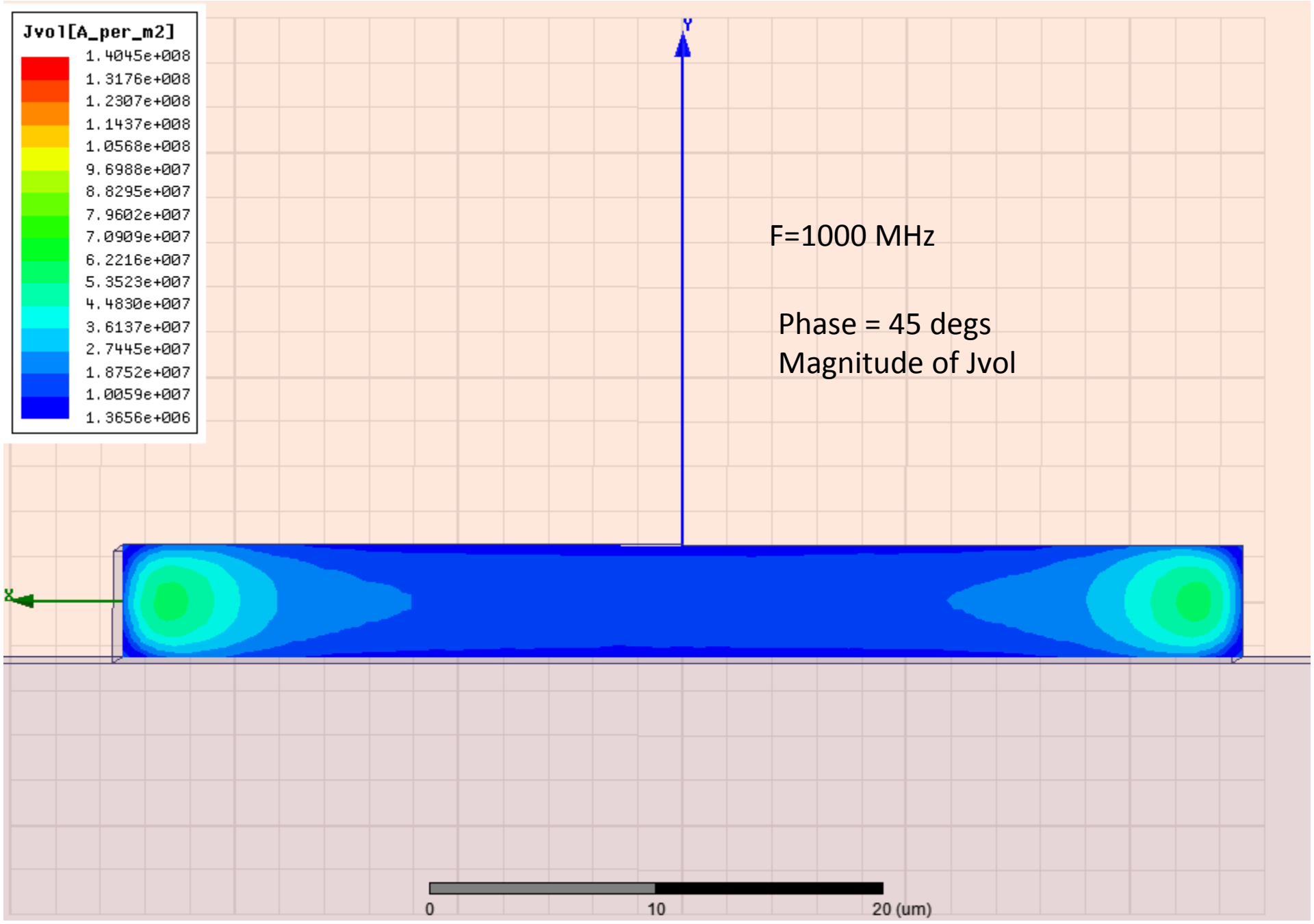

Jvol[A_per_m2]
4.1522e+007
3.8933e+007
3.6344e+007
3.3755e+007
3.1166e+007
2.8577e+007
2.5988e+007
2.3399e+007
2.0810e+007
1.8221e+007
1.5632e+007
1.3043e+007
1.0454e+007
7.8655e+006
5.2765e+006
2.6876e+006
9.8639e+004
Y
X
F=100 MHz
Phase = 60 degs
Magnitude of Jvol
0
10
20 (um)

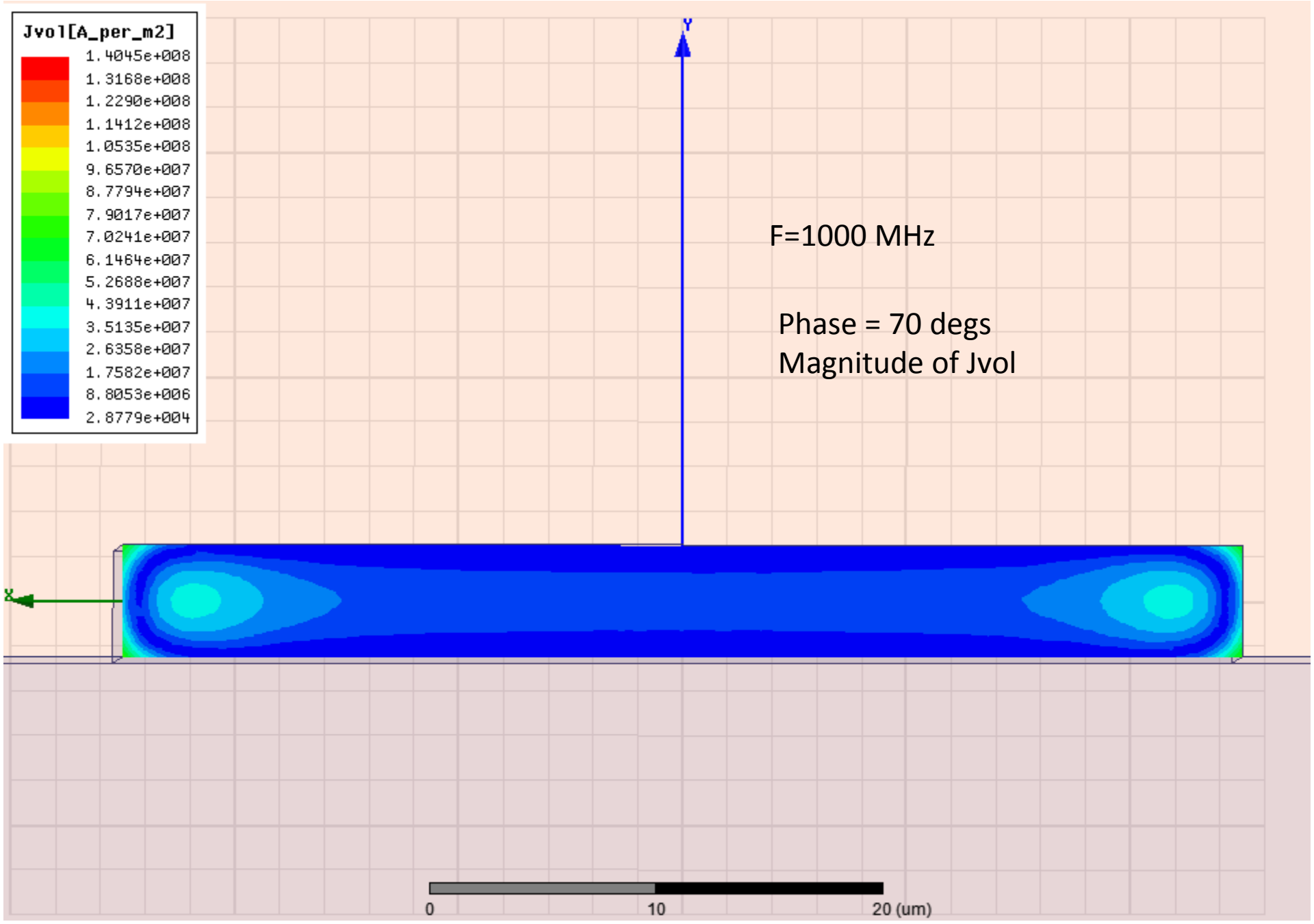

Jvol[A_per_m2]
4.1522e+007
3.8927e+007
3.6333e+007
3.3738e+007
3.1144e+007
2.8549e+007
2.5955e+007
2.3360e+007
2.0766e+007
1.8172e+007
1.5577e+007
1.2983e+007
1.0388e+007
7.7937e+006
5.1992e+006
2.6047e+006
1.0255e+004
Y
X
F=100 MHz
Phase = 75 degs
Magnitude of Jvol
0
10
20 (um)

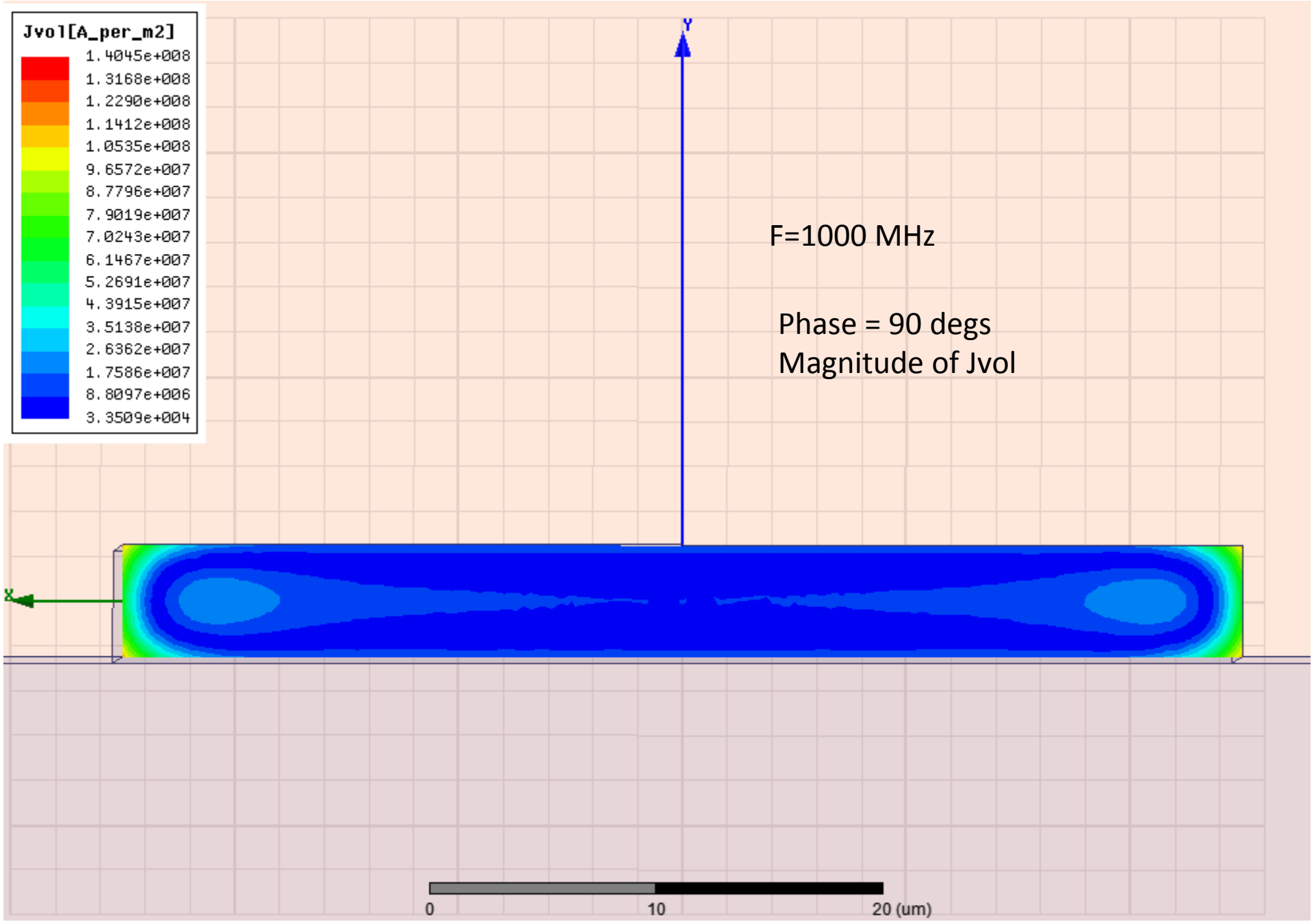

Jvol[A_per_m2]
4.1522e+007
3.8928e+007
3.6334e+007
3.3741e+007
3.1147e+007
2.8553e+007
2.5960e+007
2.3366e+007
2.0772e+007
1.8179e+007
1.5585e+007
1.2991e+007
1.0398e+007
7.8041e+006
5.2105e+006
2.6168e+006
2.3173e+004
Y
X
F=100 MHz
Phase = 90 degs
Magnitude of Jvol
0
10
20 (um)

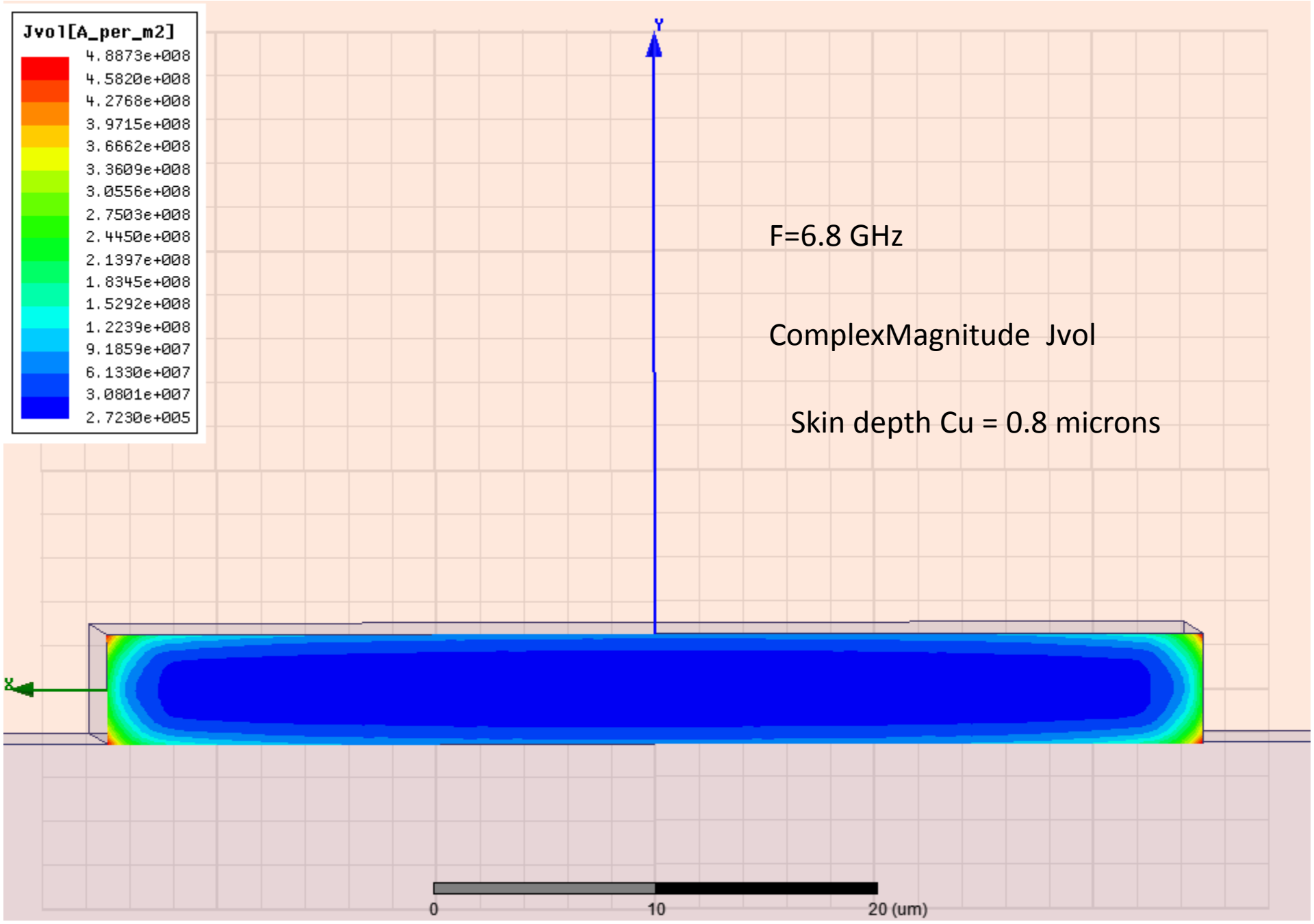

Jvol[A_per_m2]
1.4045e+008
1.3259e+008
1.2472e+008
1.1685e+008
1.0899e+008
1.0112e+008
9.3256e+007
8.5390e+007
7.7523e+007
6.9657e+007
6.1791e+007
5.3925e+007
4.6058e+007
3.8192e+007
3.0326e+007
2.2460e+007
1.4594e+007
Y
X
F=1000 MHz
ComplexMagnitude Jvol
Skin depth Cu = 2.1 microns
0
10
20 (um)

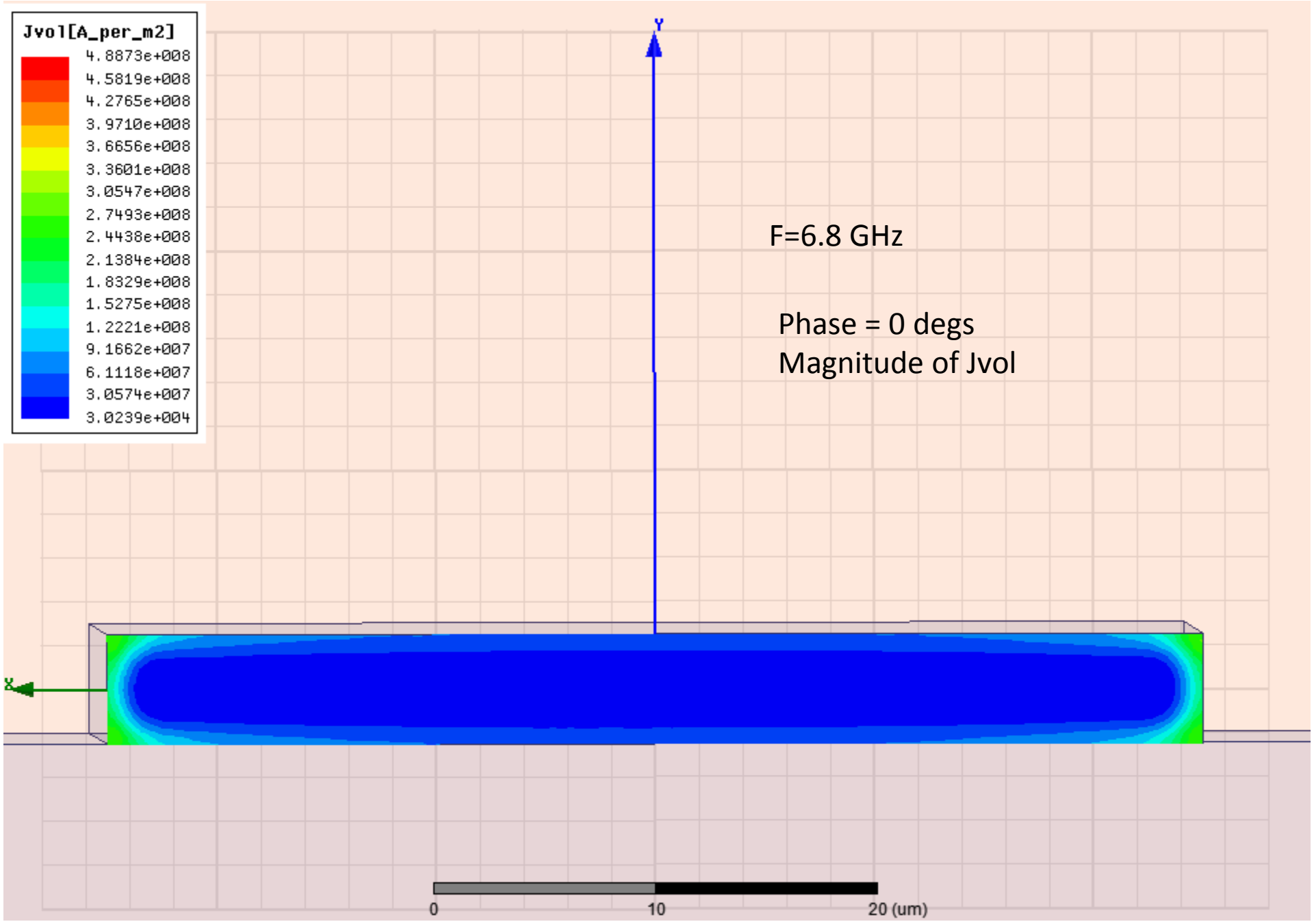

Jvol[A_per_m2]
1.4045e+008
1.3259e+008
1.2472e+008
1.1685e+008
1.0899e+008
1.0112e+008
9.3255e+007
8.5388e+007
7.7522e+007
6.9656e+007
6.1789e+007
5.3923e+007
4.6057e+007
3.8190e+007
3.0324e+007
2.2457e+007
1.4591e+007
Y
X
F=1000 MHz
Phase = 0 degs
Magnitude of Jvol
0
10
20 (um)

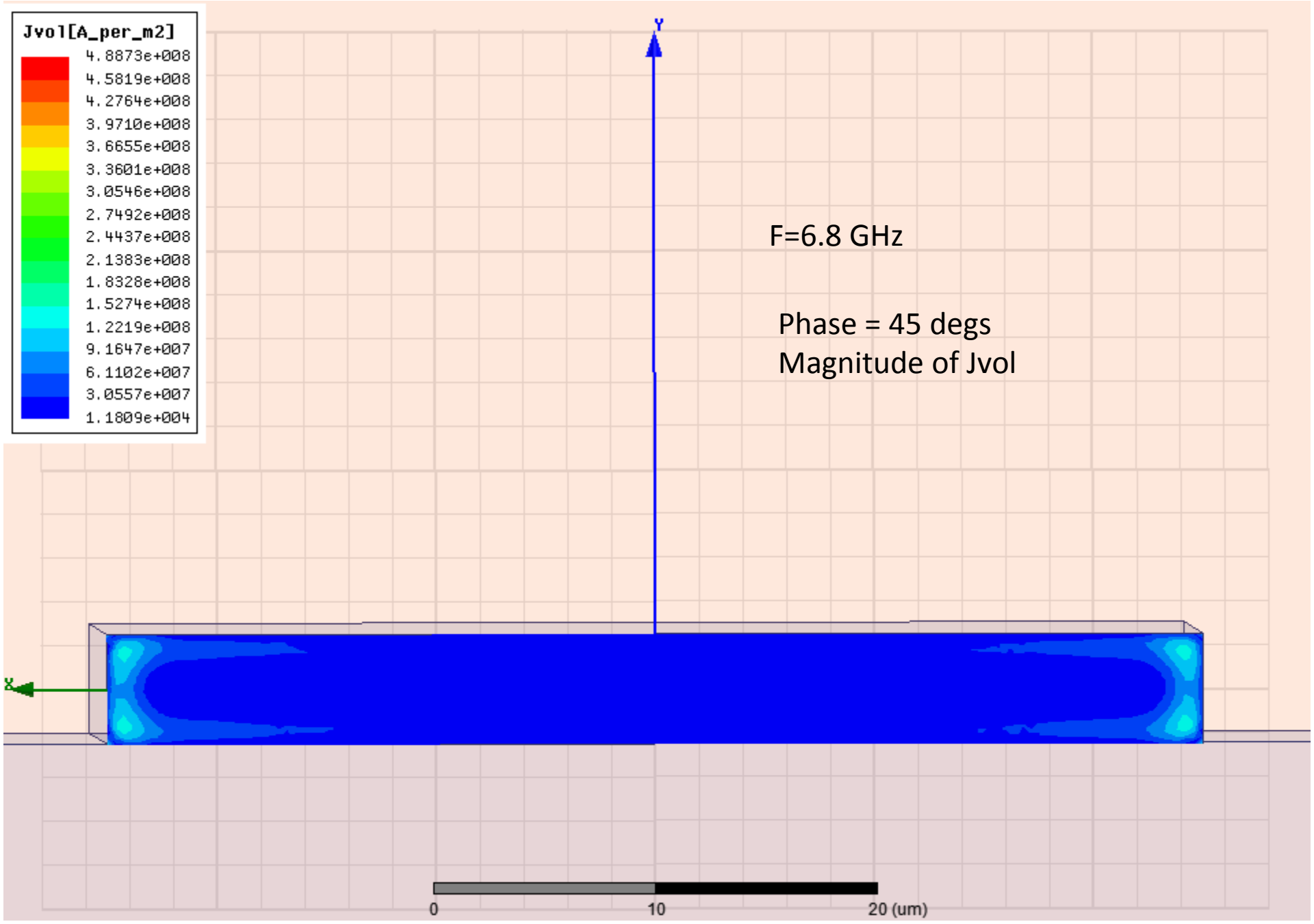

Jvol[A_per_m2]
1.4045e+008
1.3176e+008
1.2307e+008
1.1437e+008
1.0568e+008
9.6988e+007
8.8295e+007
7.9602e+007
7.0909e+007
6.2216e+007
5.3523e+007
4.4830e+007
3.6137e+007
2.7445e+007
1.8752e+007
1.0059e+007
1.3656e+006
Y
X
F=1000 MHz
Phase = 45 degs
Magnitude of Jvol
0
10
20 (um)

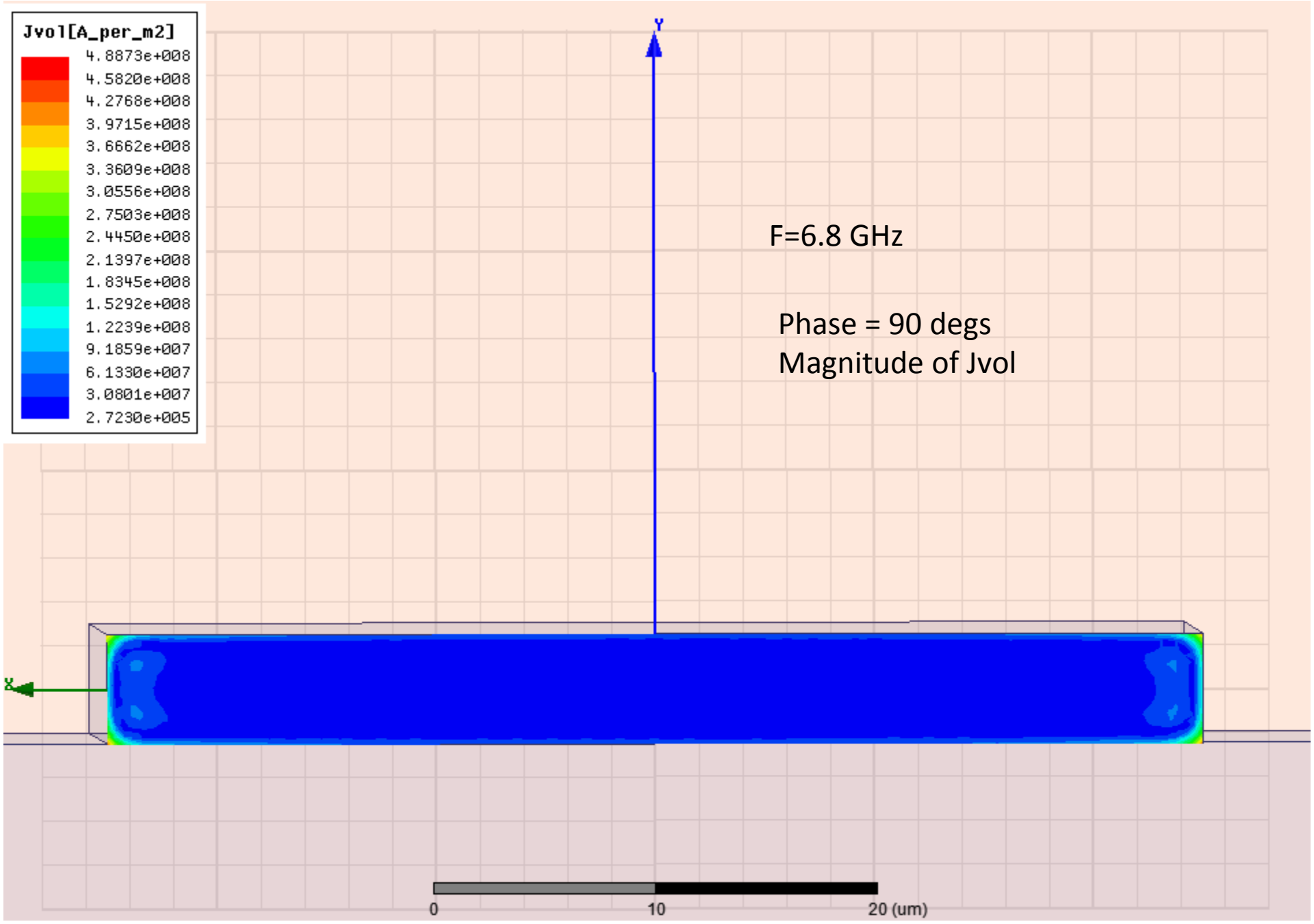

Jvol[A_per_m2]
1.4045e+008
1.3168e+008
1.2290e+008
1.1412e+008
1.0535e+008
9.6570e+007
8.7794e+007
7.9017e+007
7.0241e+007
6.1464e+007
5.2688e+007
4.3911e+007
3.5135e+007
2.6358e+007
1.7582e+007
8.8053e+006
2.8779e+004
Y
X
F=1000 MHz
Phase = 70 degs
Magnitude of Jvol
0
10
20 (um)


Jvol[A_per_m2]
1.4045e+008
1.3168e+008
1.2290e+008
1.1412e+008
1.0535e+008
9.6572e+007
8.7796e+007
7.9019e+007
7.0243e+007
6.1467e+007
5.2691e+007
4.3915e+007
3.5138e+007
2.6362e+007
1.7586e+007
8.8097e+006
3.3509e+004
Y
X
F=1000 MHz
Phase = 90 degs
Magnitude of Jvol
0
10
20 (um)


Jvol[A_per_m2]
4.8873e+008
4.5820e+008
4.2768e+008
3.9715e+008
3.6662e+008
3.3609e+008
3.0556e+008
2.7503e+008
2.4450e+008
2.1397e+008
1.8345e+008
1.5292e+008
1.2239e+008
9.1859e+007
6.1330e+007
3.0801e+007
2.7230e+005
Y
X
F=6.8 GHz
ComplexMagnitude Jvol
Skin depth Cu = 0.8 microns
0
10
20 (um)


Jvol[A_per_m2]
4.8873e+008
4.5819e+008
4.2765e+008
3.9710e+008
3.6656e+008
3.3601e+008
3.0547e+008
2.7493e+008
2.4438e+008
2.1384e+008
1.8329e+008
1.5275e+008
1.2221e+008
9.1662e+007
6.1118e+007
3.0574e+007
3.0239e+004
Y
X
F=6.8 GHz
Phase = 0 degs
Magnitude of Jvol
0
10
20 (um)


Jvol[A_per_m2]
4.8873e+008
4.5819e+008
4.2764e+008
3.9710e+008
3.6655e+008
3.3601e+008
3.0546e+008
2.7492e+008
2.4437e+008
2.1383e+008
1.8328e+008
1.5274e+008
1.2219e+008
9.1647e+007
6.1102e+007
3.0557e+007
1.1809e+004
Y
X
F=6.8 GHz
Phase = 45 degs
Magnitude of Jvol
0
10
20 (um)


Jvol[A_per_m2]
4.8873e+008
4.5820e+008
4.2768e+008
3.9715e+008
3.6662e+008
3.3609e+008
3.0556e+008
2.7503e+008
2.4450e+008
2.1397e+008
1.8345e+008
1.5292e+008
1.2239e+008
9.1859e+007
6.1330e+007
3.0801e+007
2.7230e+005
Y
X
F=6.8 GHz
Phase = 90 degs
Magnitude of Jvol
0
10
20 (um)