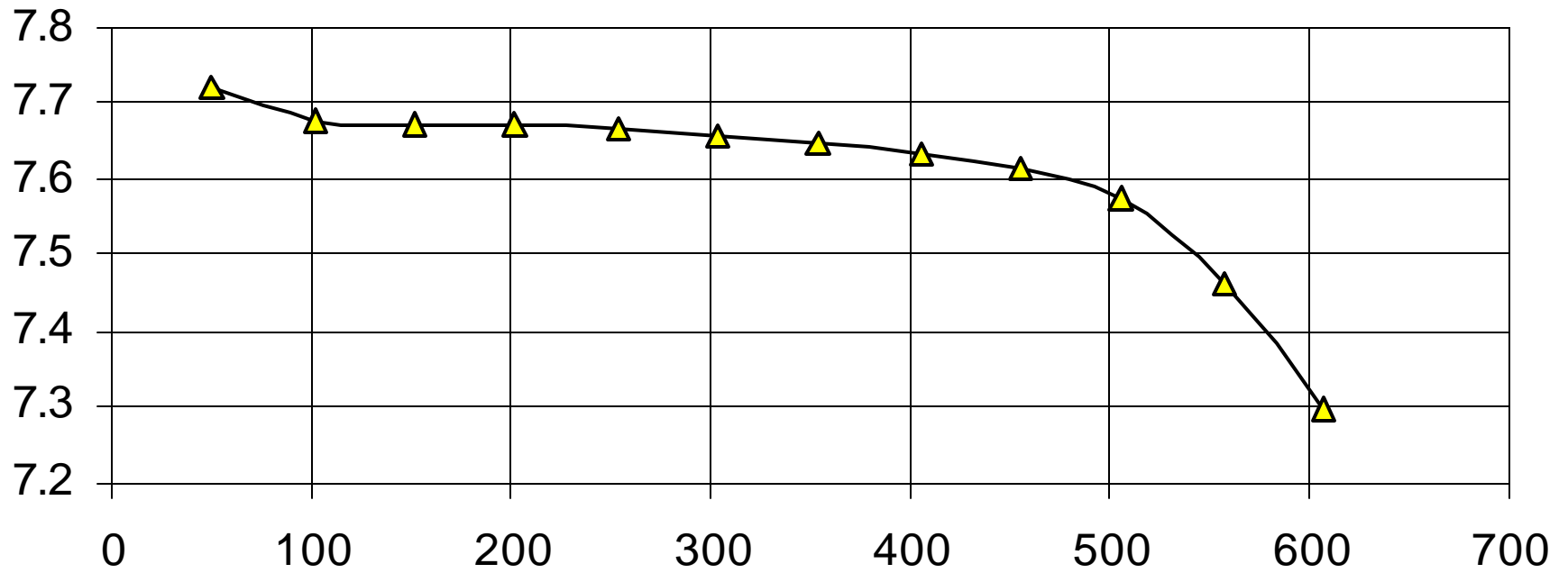
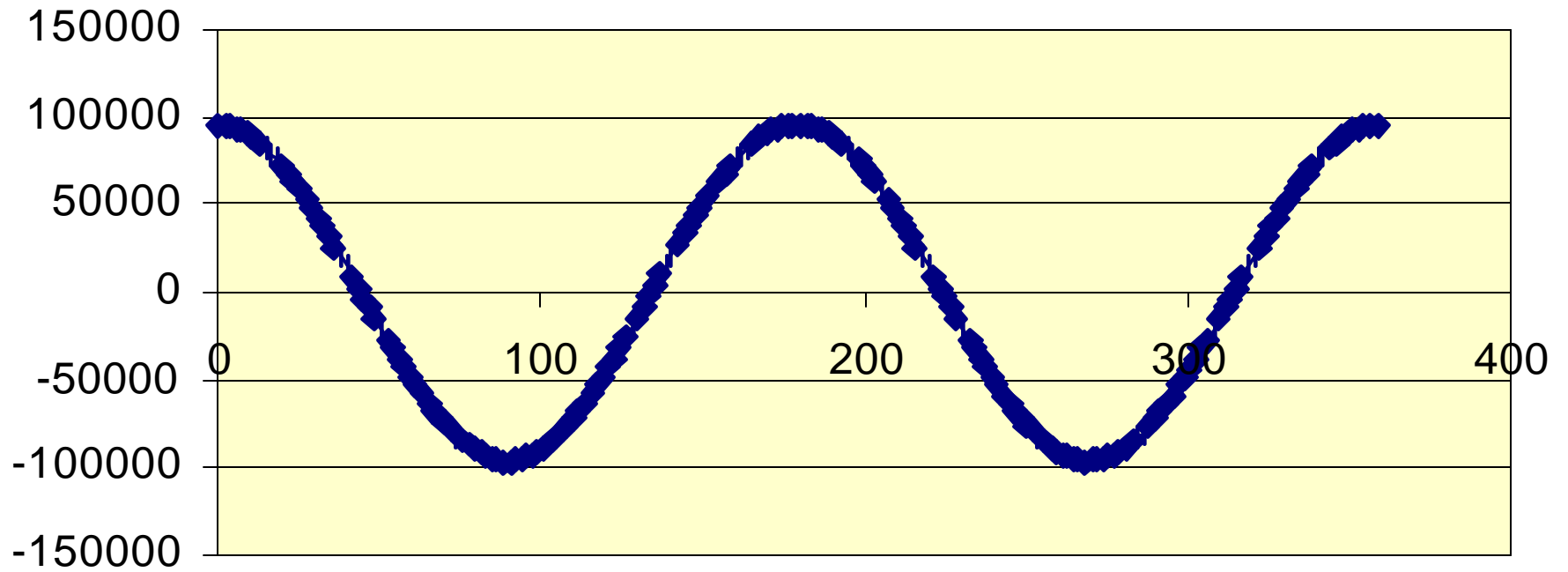


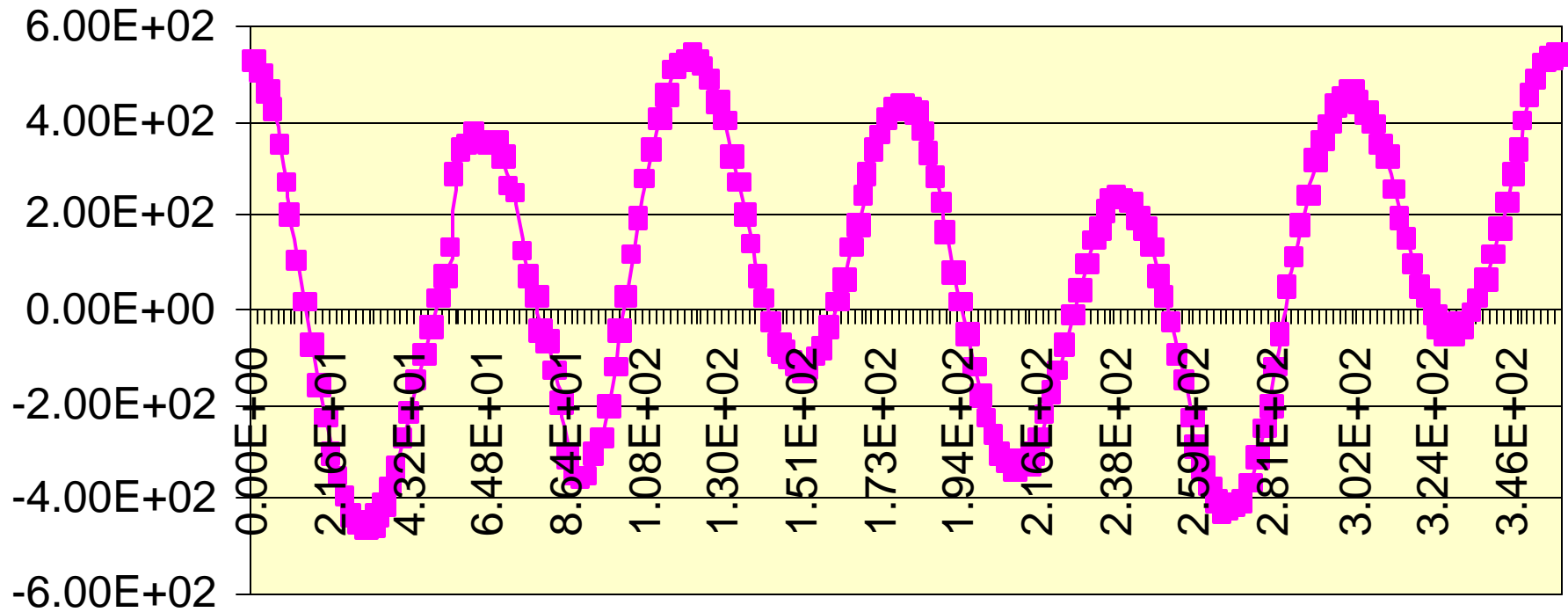
## 12Q45 Pole Tip Gauss/amp



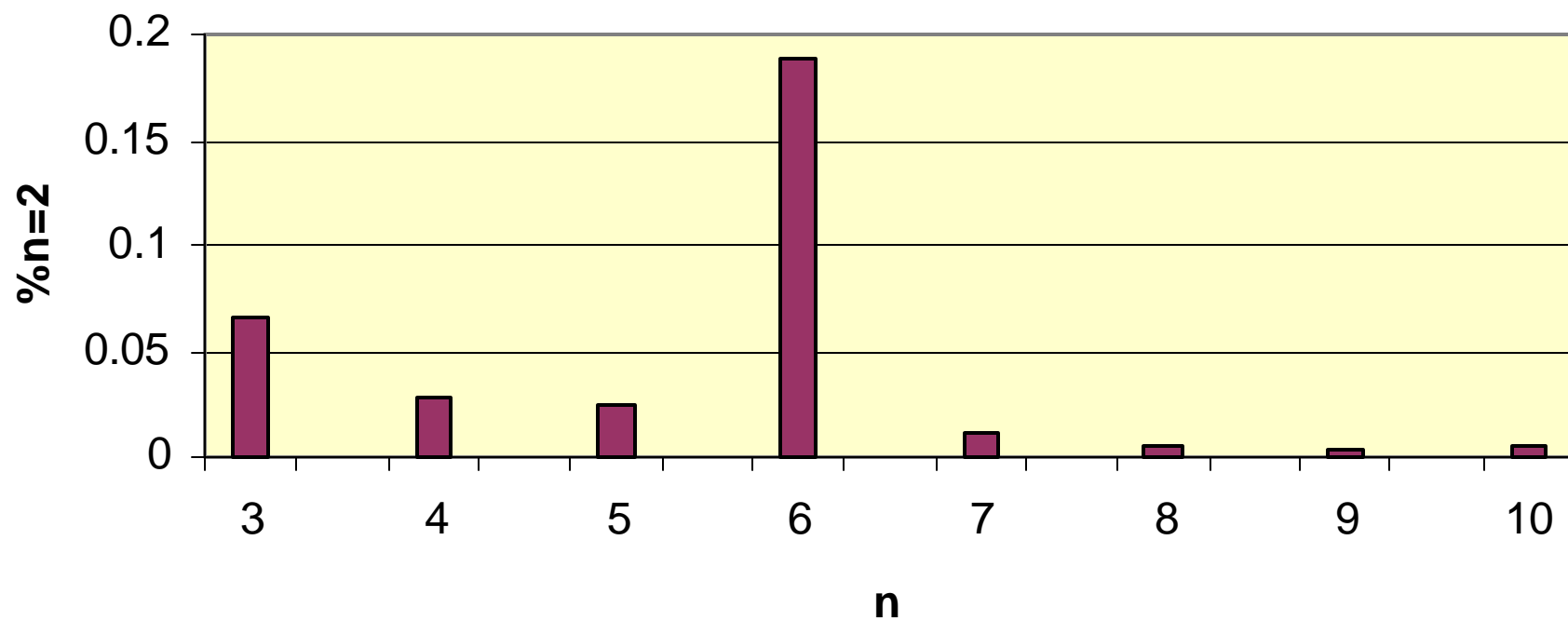
# UB Signal, 270 amps



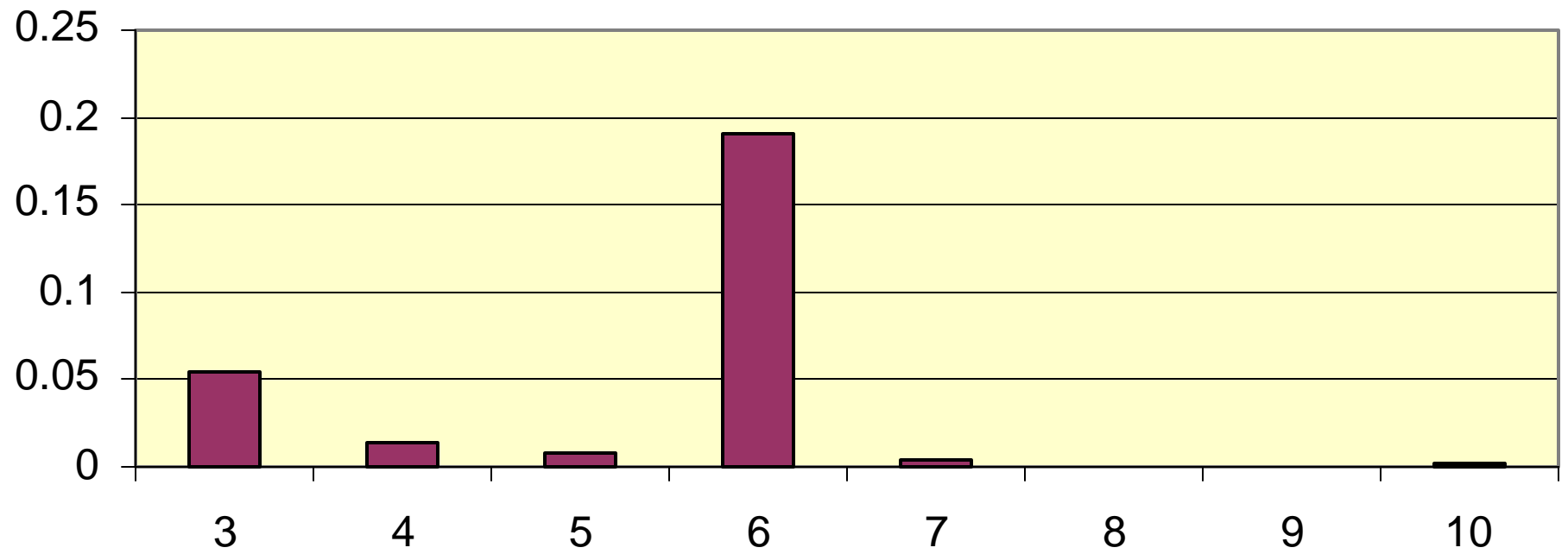
### Bucked Data, 270 amps



### 12Q45 1st Article 270 amps



# % n=2, I= 600 amps



Average I: 270.631 +/- 0.008 Amps

Dipole BL: 1.32E-04 T-m

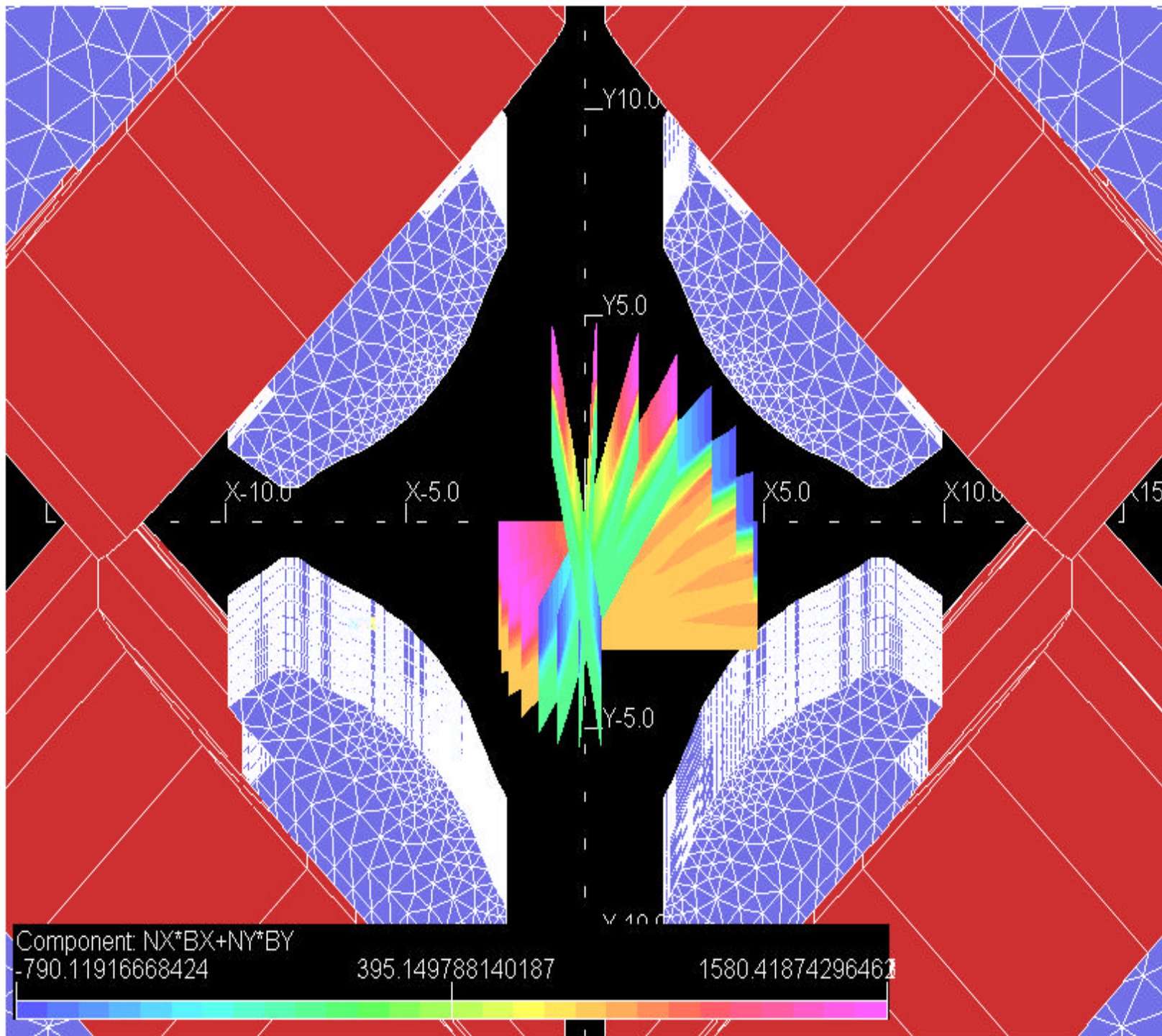
Quad GL: 1.76E+00 T

Average I: 605.33 +/- 0.012 Amps

Dipole BL: 2.48E-04 T-m

Quad GL: 3.73E+00 T





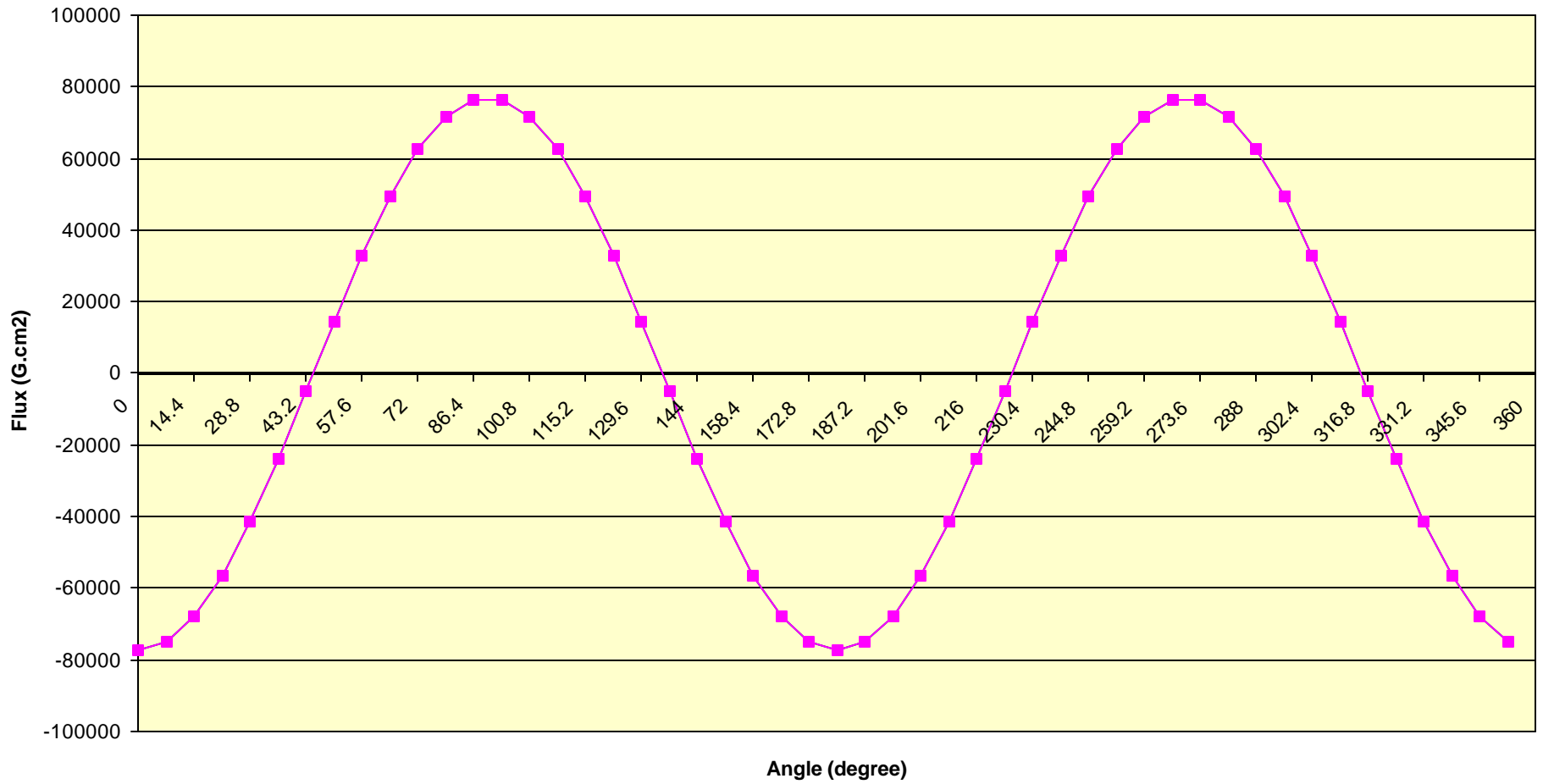
UNITS	
Length	: cm
Magn Flux Den	: gauss
Magnetic field	: oersted
Magn Scalar Pot	: oersted-cm
Magn Vector Pot	: gauss-cm
Elec Flux Den	: C cm <sup>-2</sup>
Electric field	: V cm <sup>-1</sup>
Conductivity	: S cm <sup>-1</sup>
Current density	: A cm <sup>-2</sup>
Power	: W
Force	: N
Energy	: J

PROBLEM DATA	
VF12Q45\12Q45a.op3	
TOSCA	
Magnetostatic	
Non-linear materials	
Simulation No 1 of 1	
813558 elements	
297858 nodes	
Nodal fields	

LOCAL COORDS.	
Xlocal	= 0.0
Ylocal	= 0.0
Zlocal	= 0.0
Theta	= 0.0
Phi	= 100.8
Psi	= 0.0



Magnetic Flux on a Patch, Similar to an Aster Coil, vs. Rotation Angle



## 12Q45 Simulation Results by OPERA3D/TOSCA

Gradient @ z=0:  $G=0.3541$  kG/cm ( $I=271$  A)

Integrated Gradient:  $G*L=1.788$  Tesla

Effective Length:  $L_{\text{eff}}=50.49$  cm

Harmonics Content in a Reference Radius of 4.2 cm:

n	$c_n/c_2$				
2	1				
3	~ 0				
4	4.20E-05				
5	0				
6	1.37E-03				
7	~ 0				
8	2.56E-05				
9	~ 0				
10	1.86E-05				