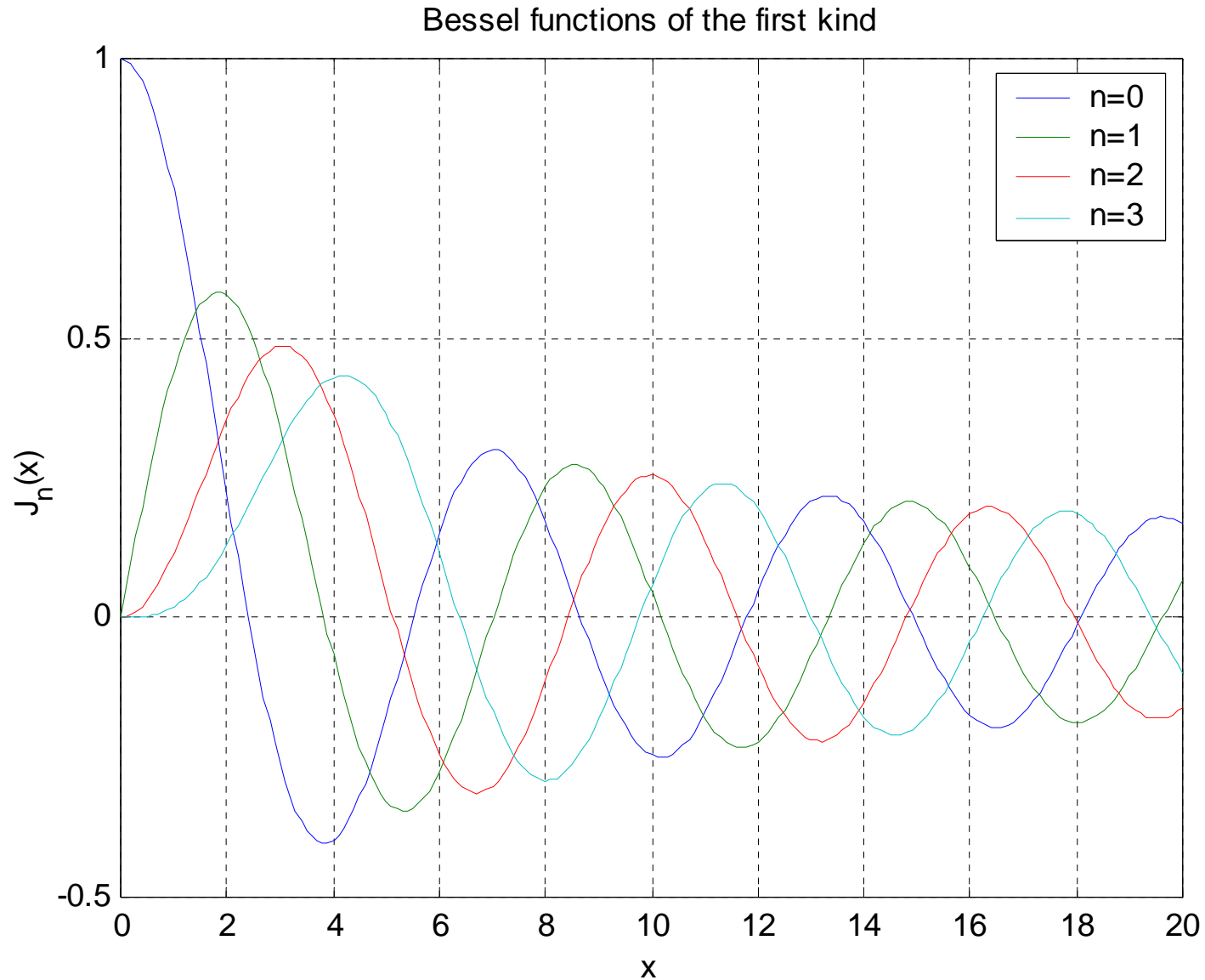


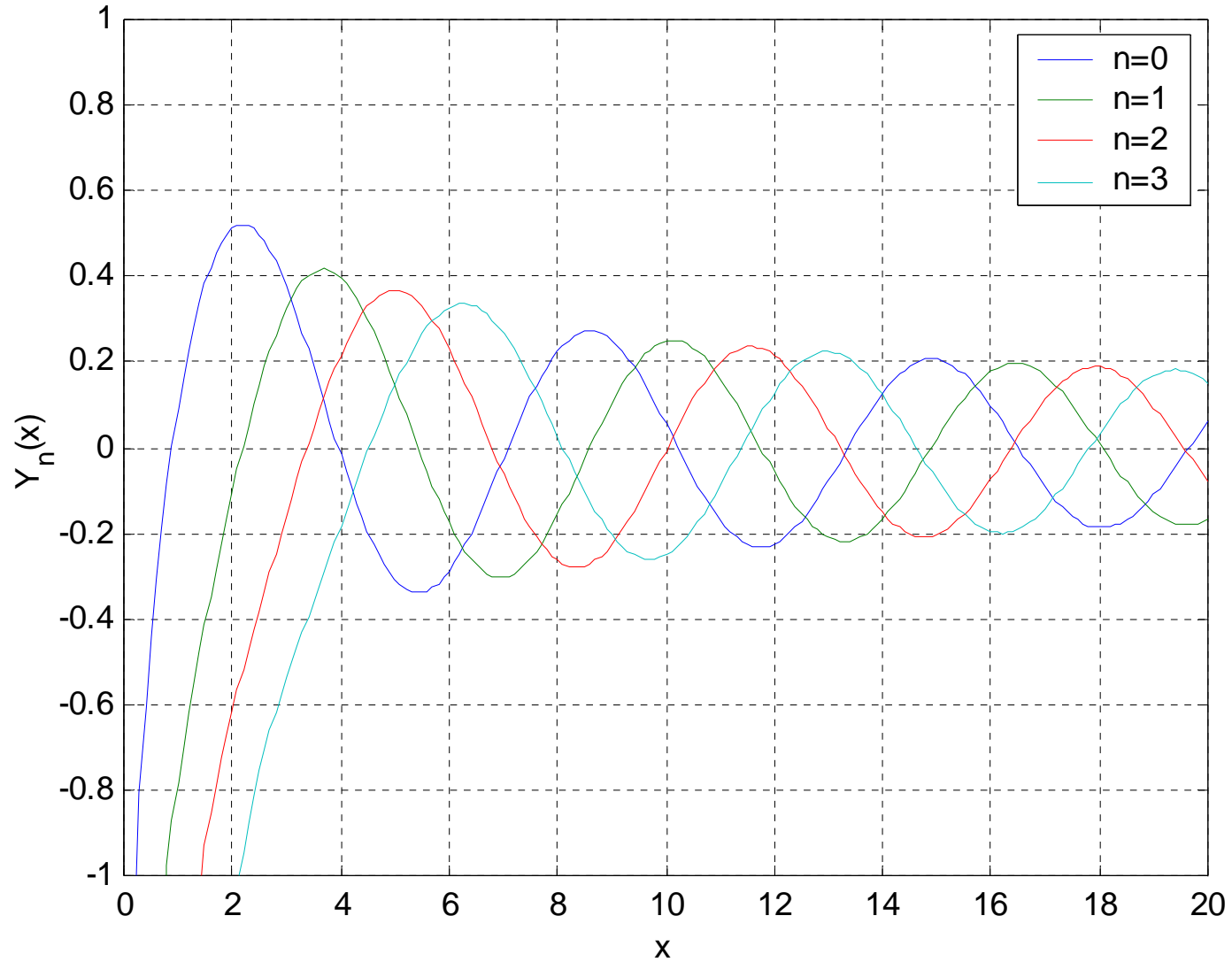
13.811  
Advanced Structural Dynamics  
and Acoustics

Acoustics  
Lecture 10

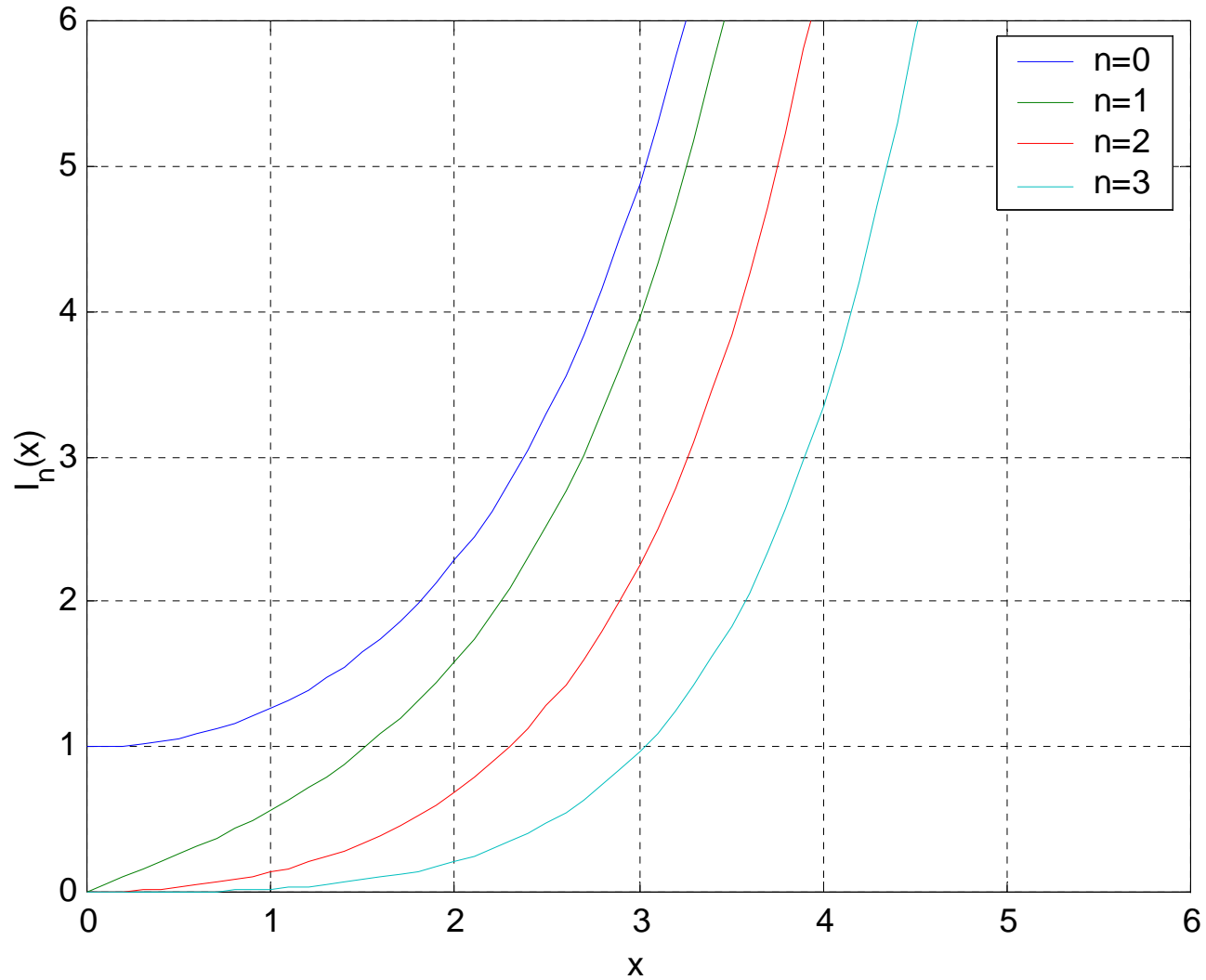
# Bessel Functions of the First Kind – $J_n(x)$



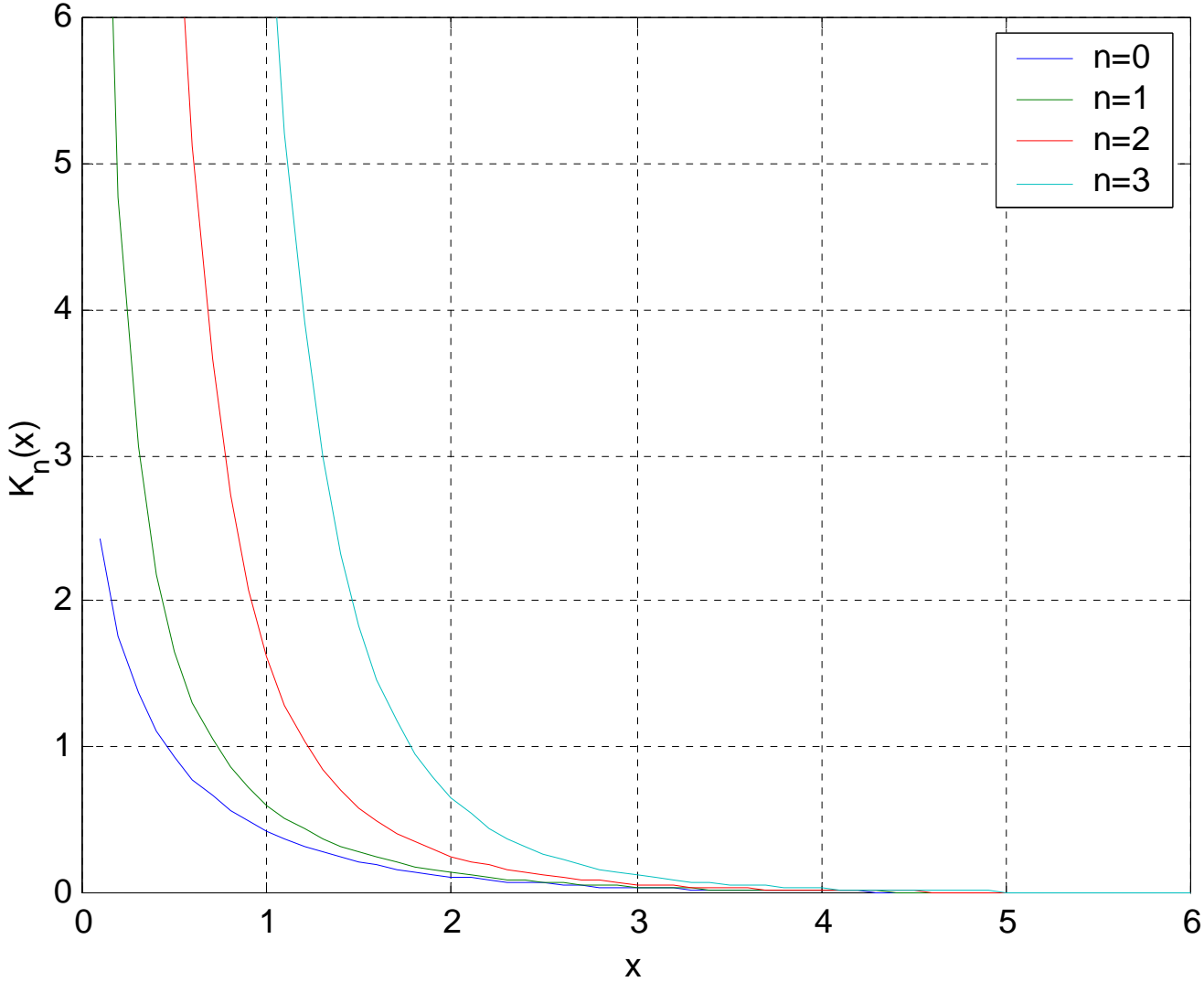
# Bessel Functions of the Second Kind – $Y_n(x)$



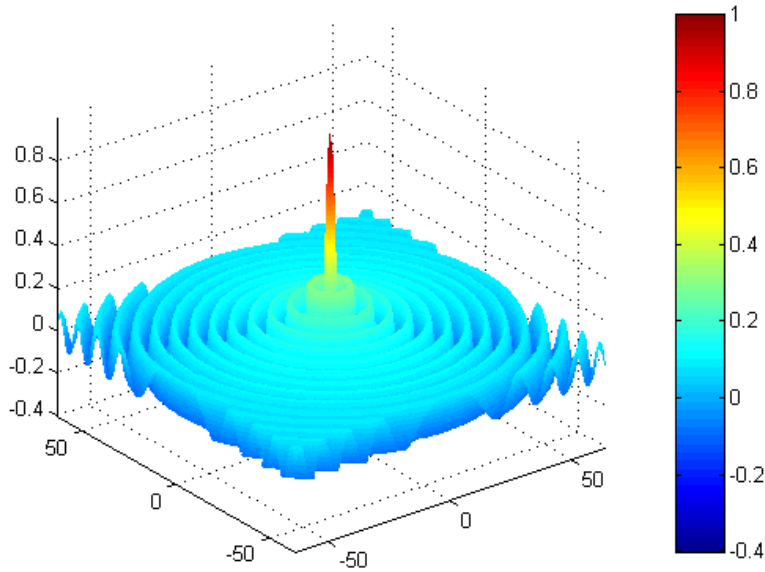
# Modified Bessel Functions of the First Kind – $I_n(x)$



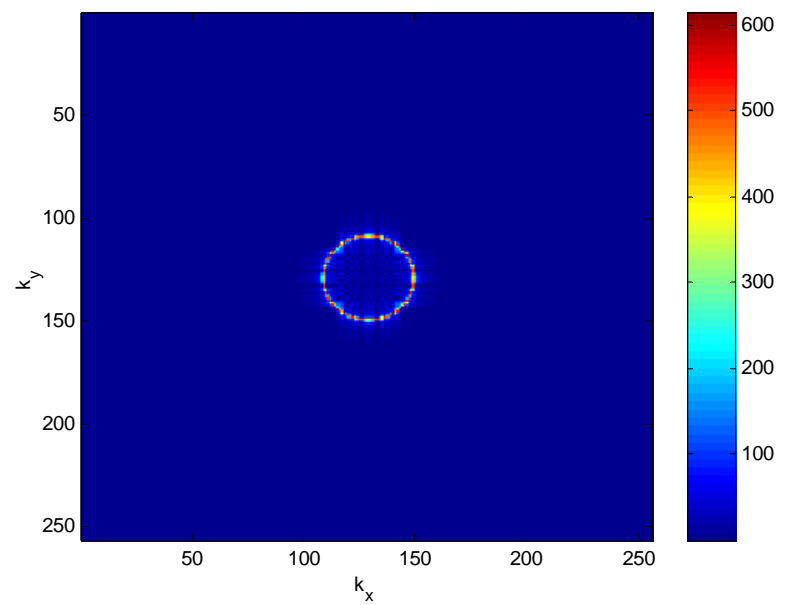
# Modified Bessel Functions of the Second Kind – $K_n(x)$



# Bessel Function $J_0$ in Spatial and Frequency Domains

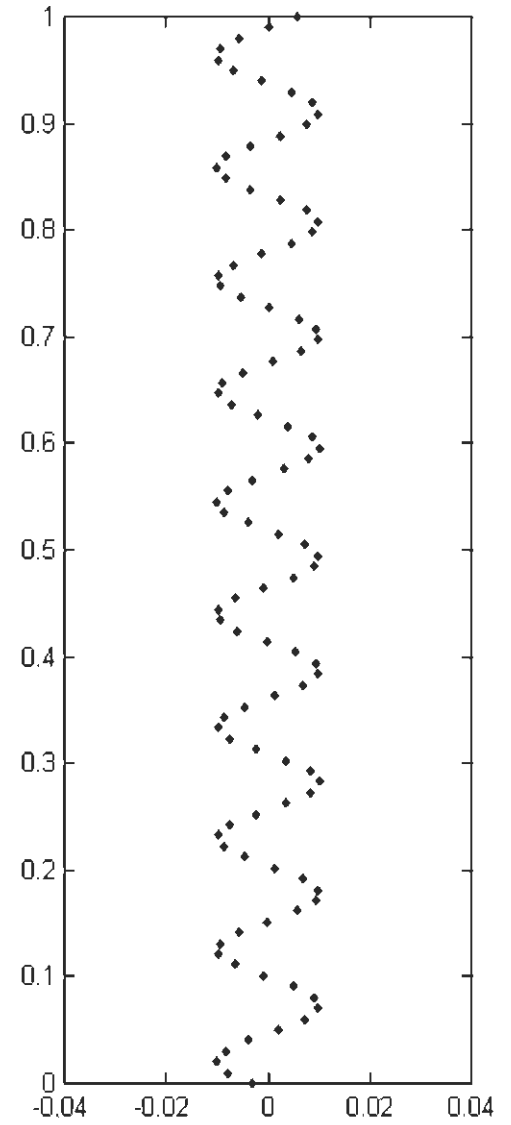
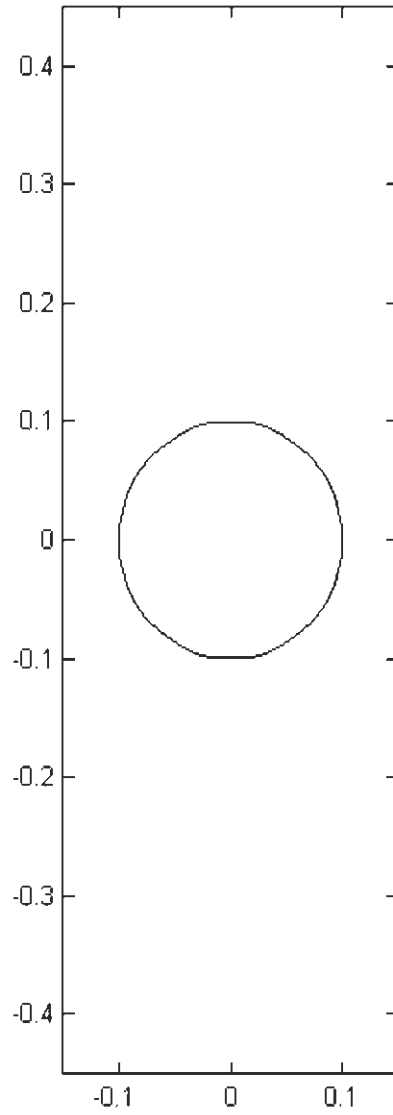
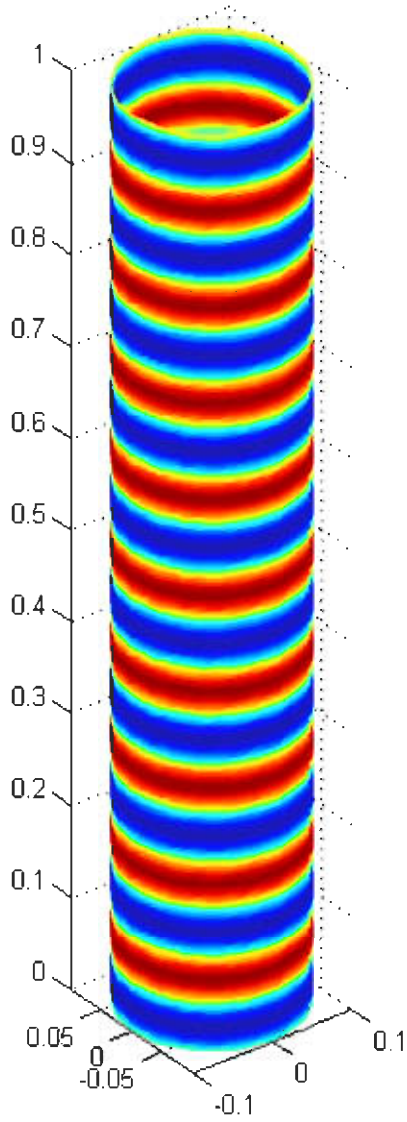


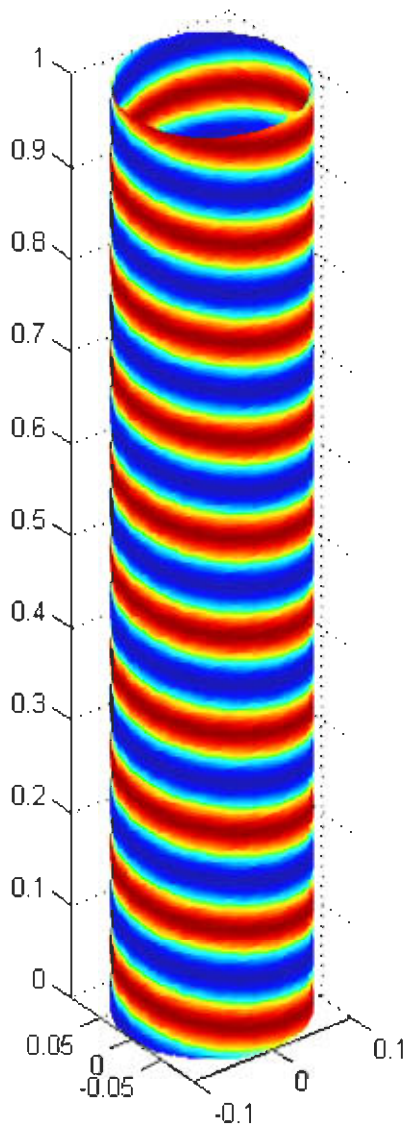
Space



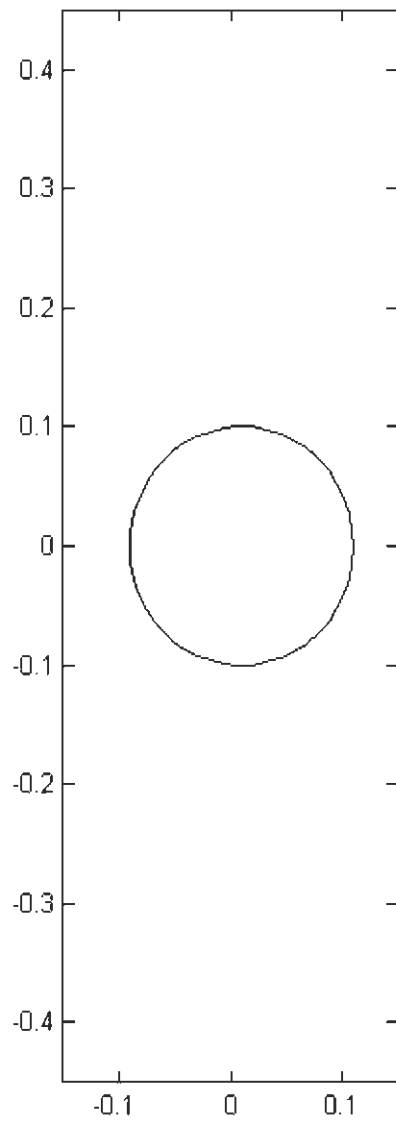
Frequency

Helical Wave:  $n=0$

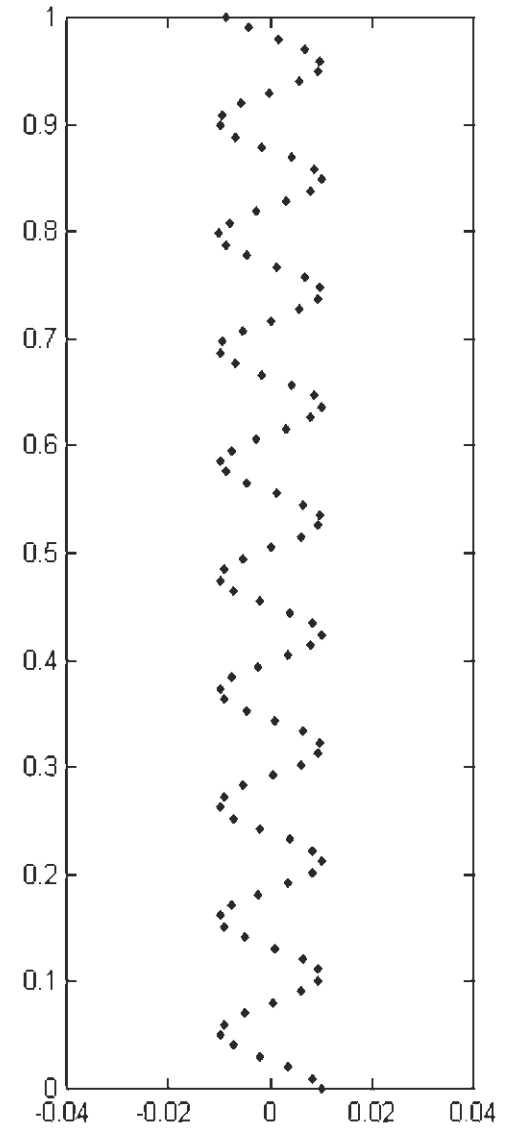




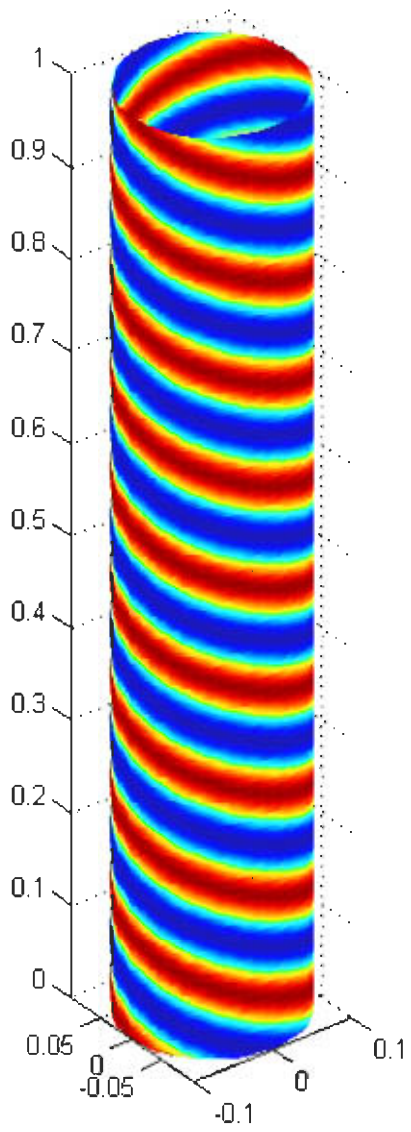
Helical Wave:  $n=1$



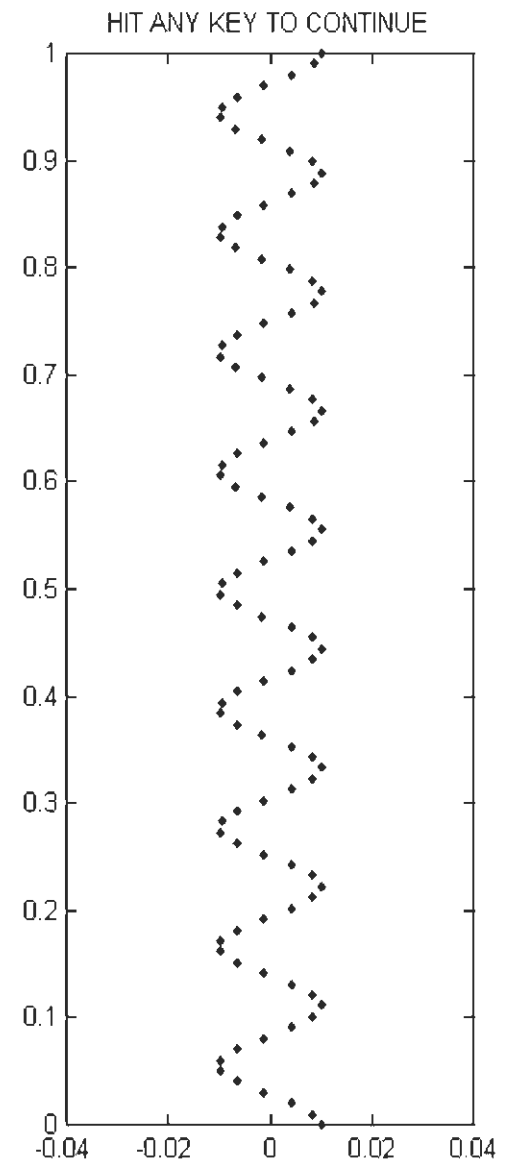
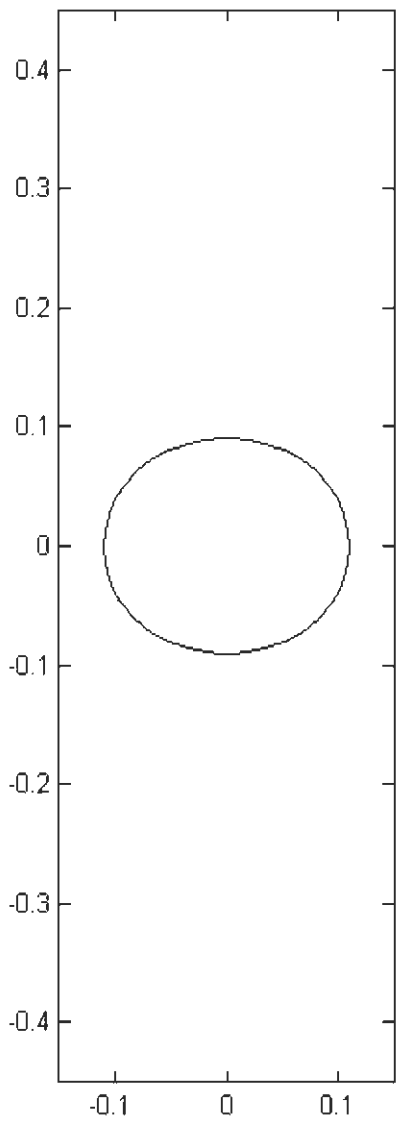
HIT ANY KEY TO CONTINUE

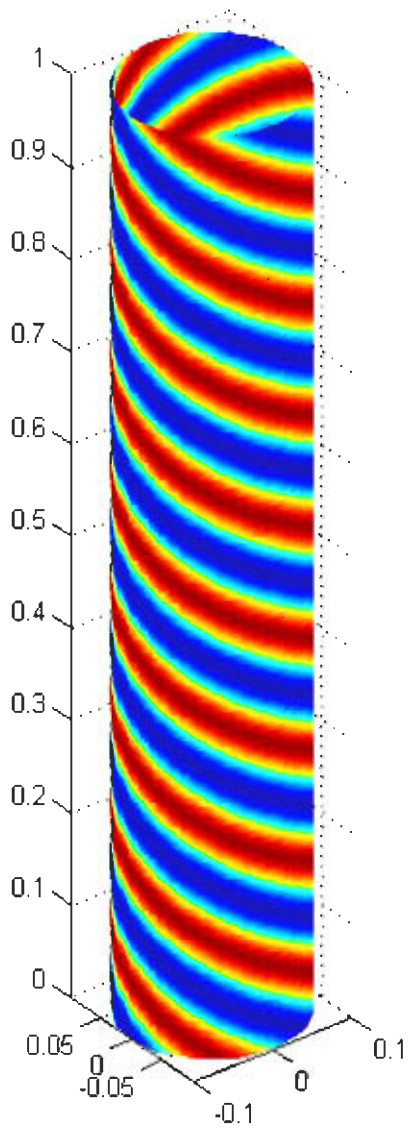




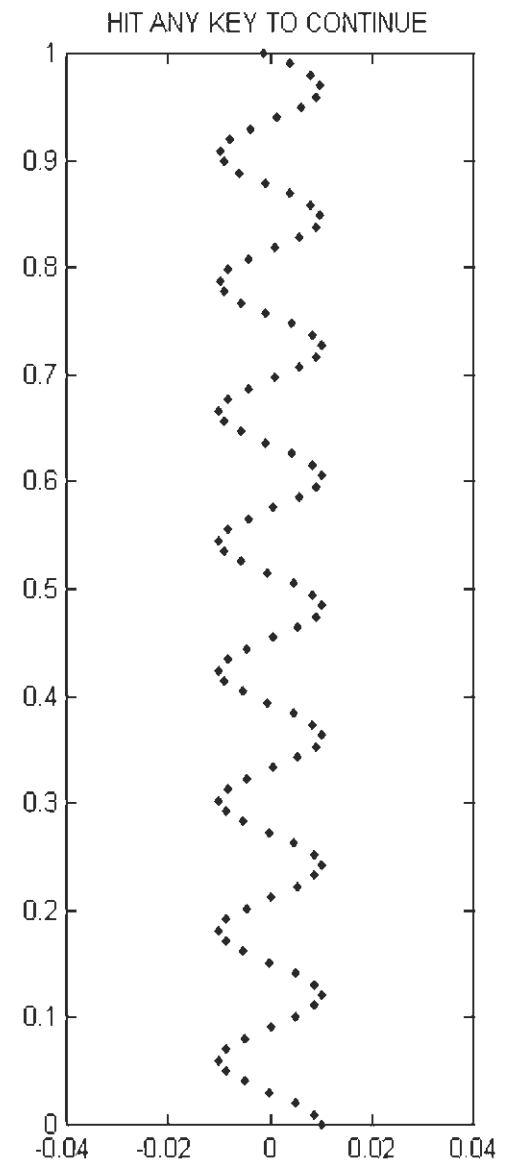
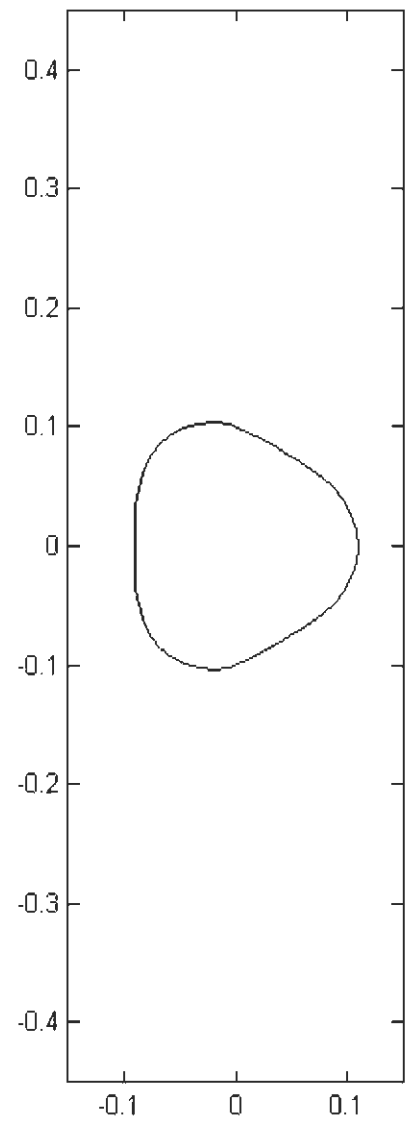


Helical Wave:  $n=2$

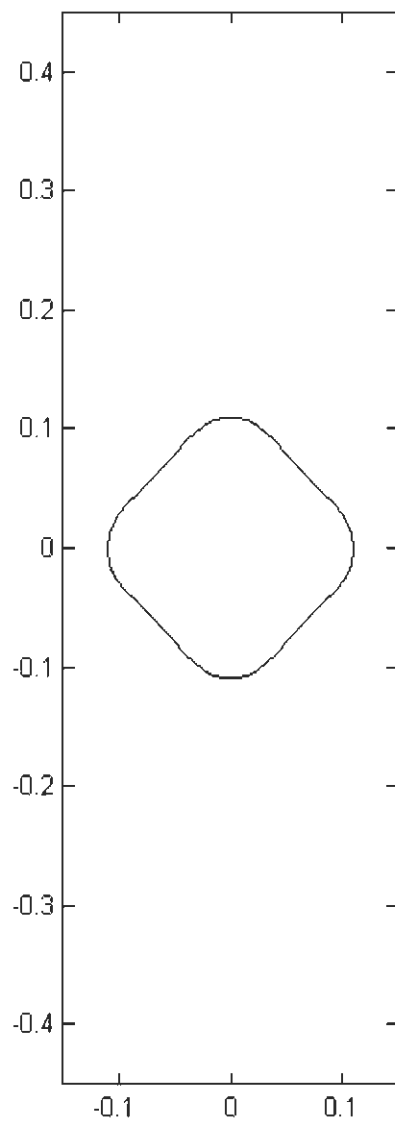
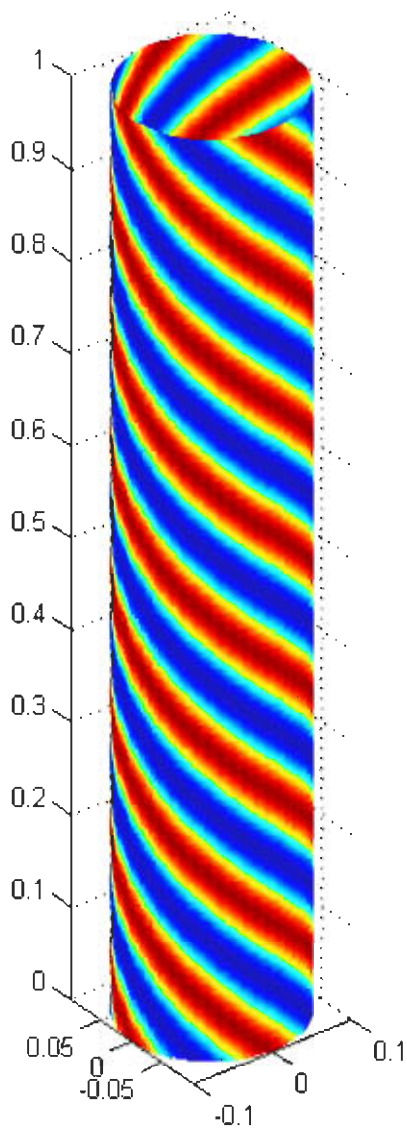




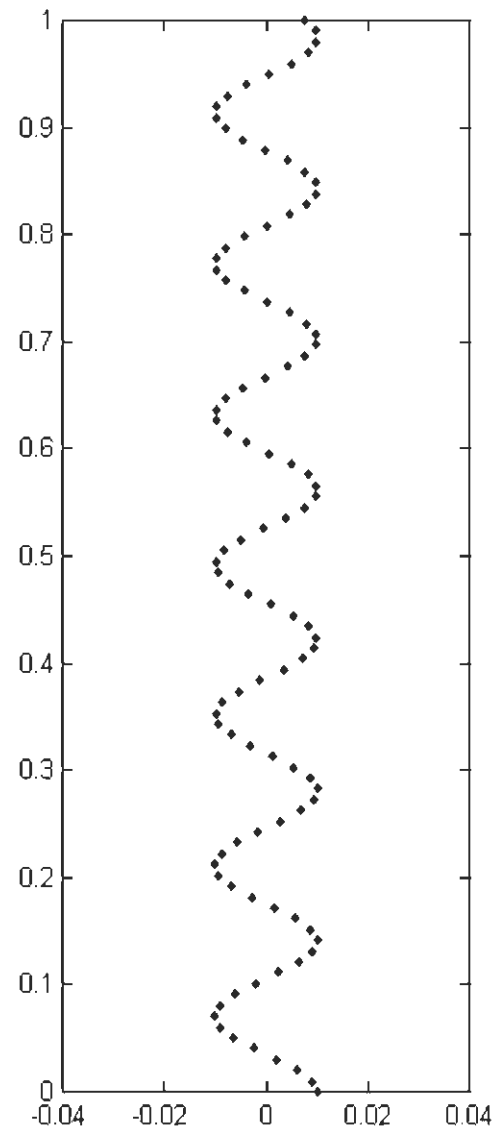
Helical Wave:  $n=3$



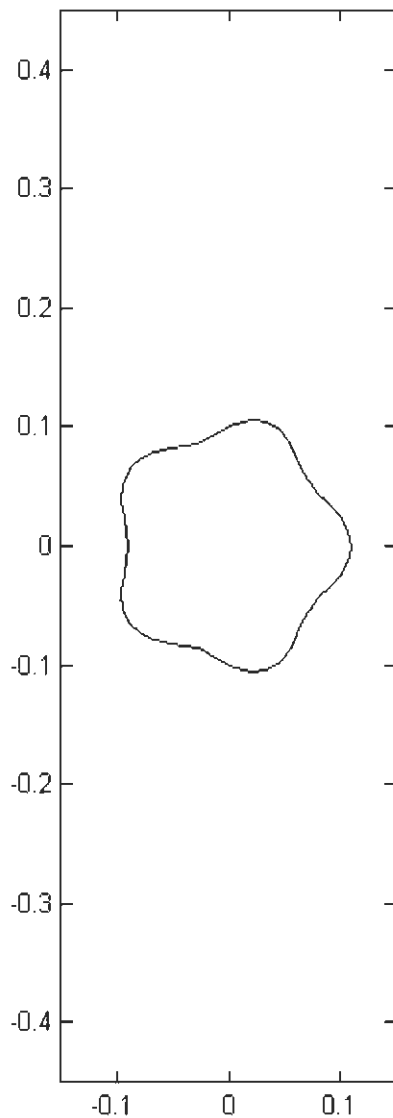
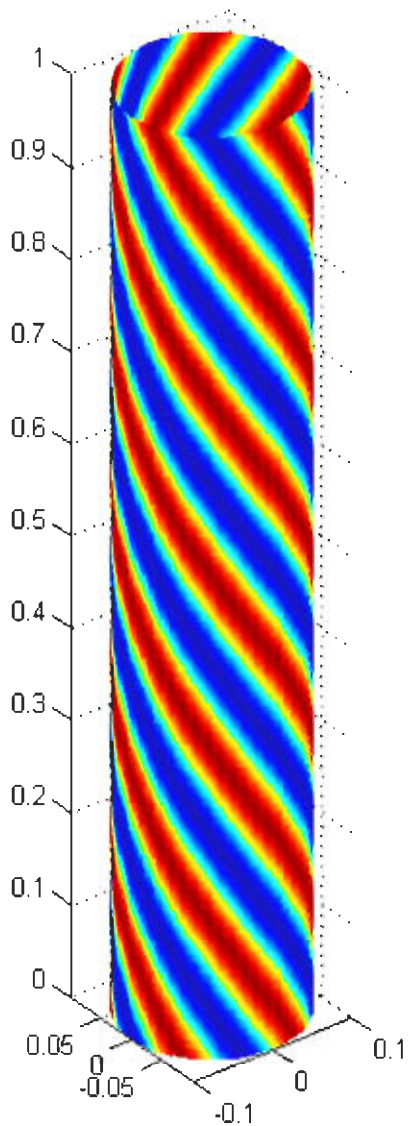
Helical Wave:  $n=4$



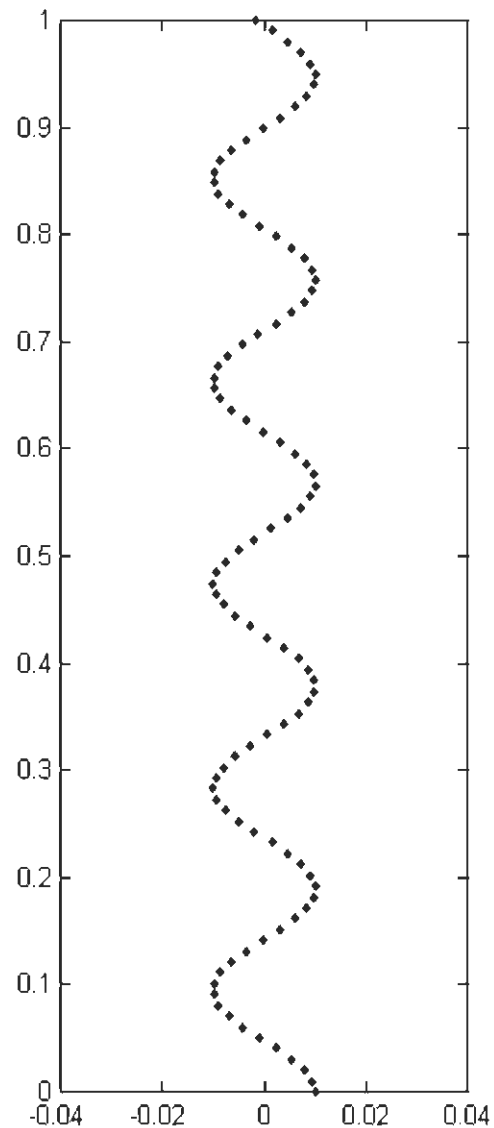
HIT ANY KEY TO CONTINUE



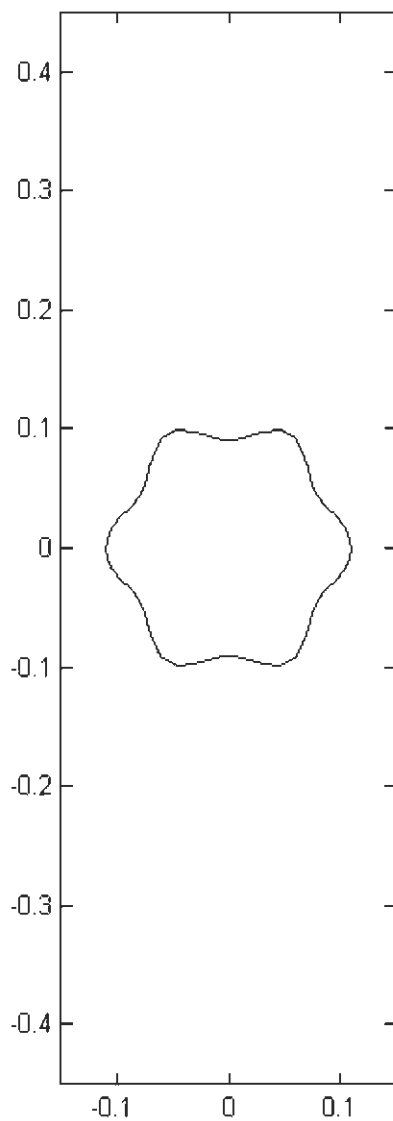
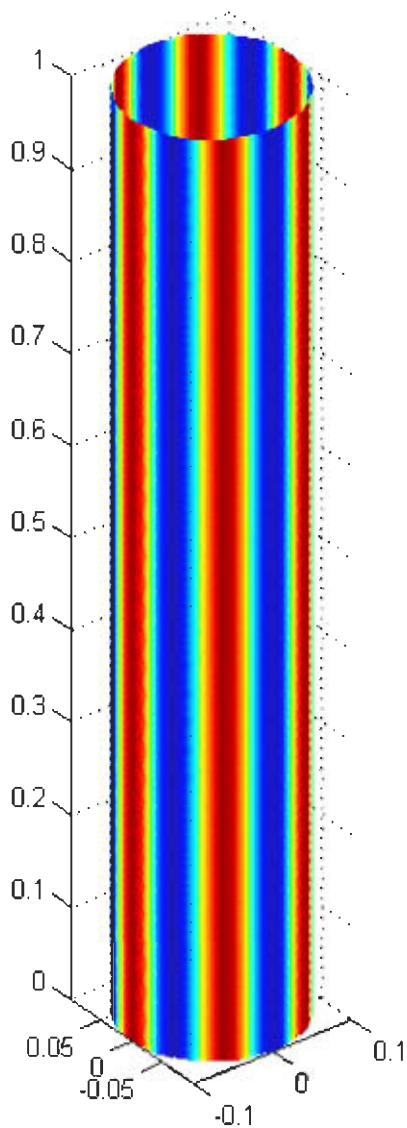
Helical Wave:  $n=5$



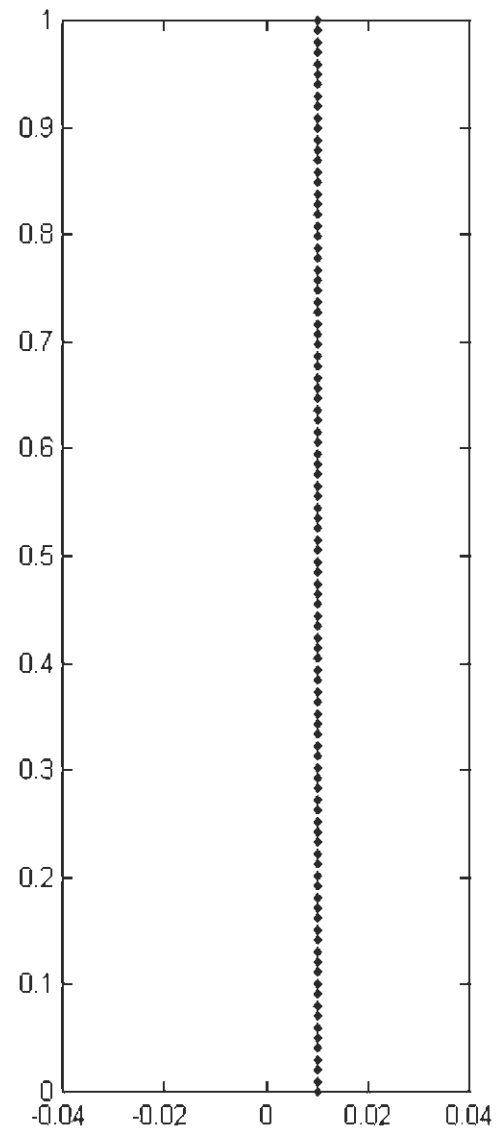
HIT ANY KEY TO CONTINUE



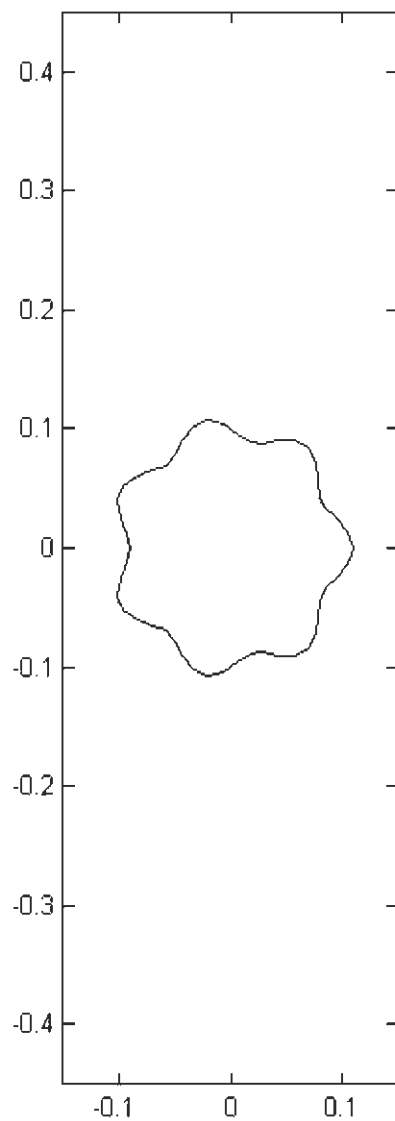
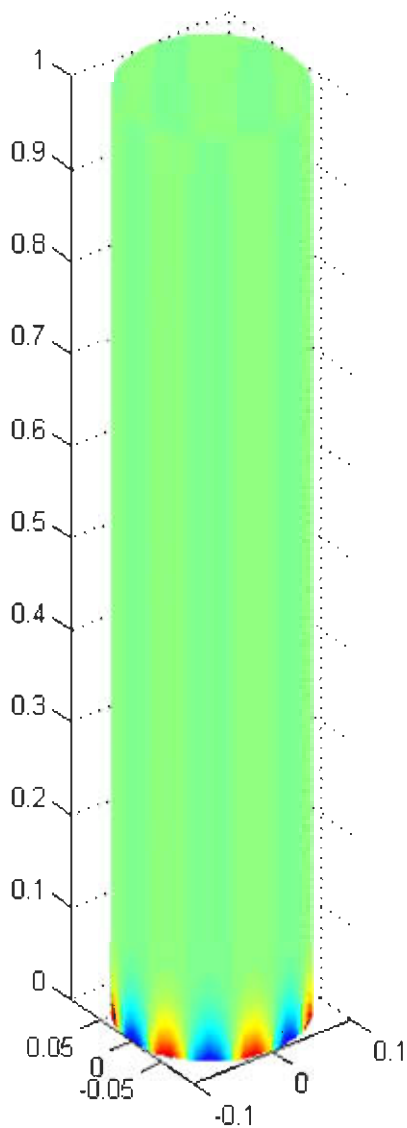
Helical Wave:  $n=6$



HIT ANY KEY TO CONTINUE



Helical Wave:  $n=7$



HIT ANY KEY TO CONTINUE

