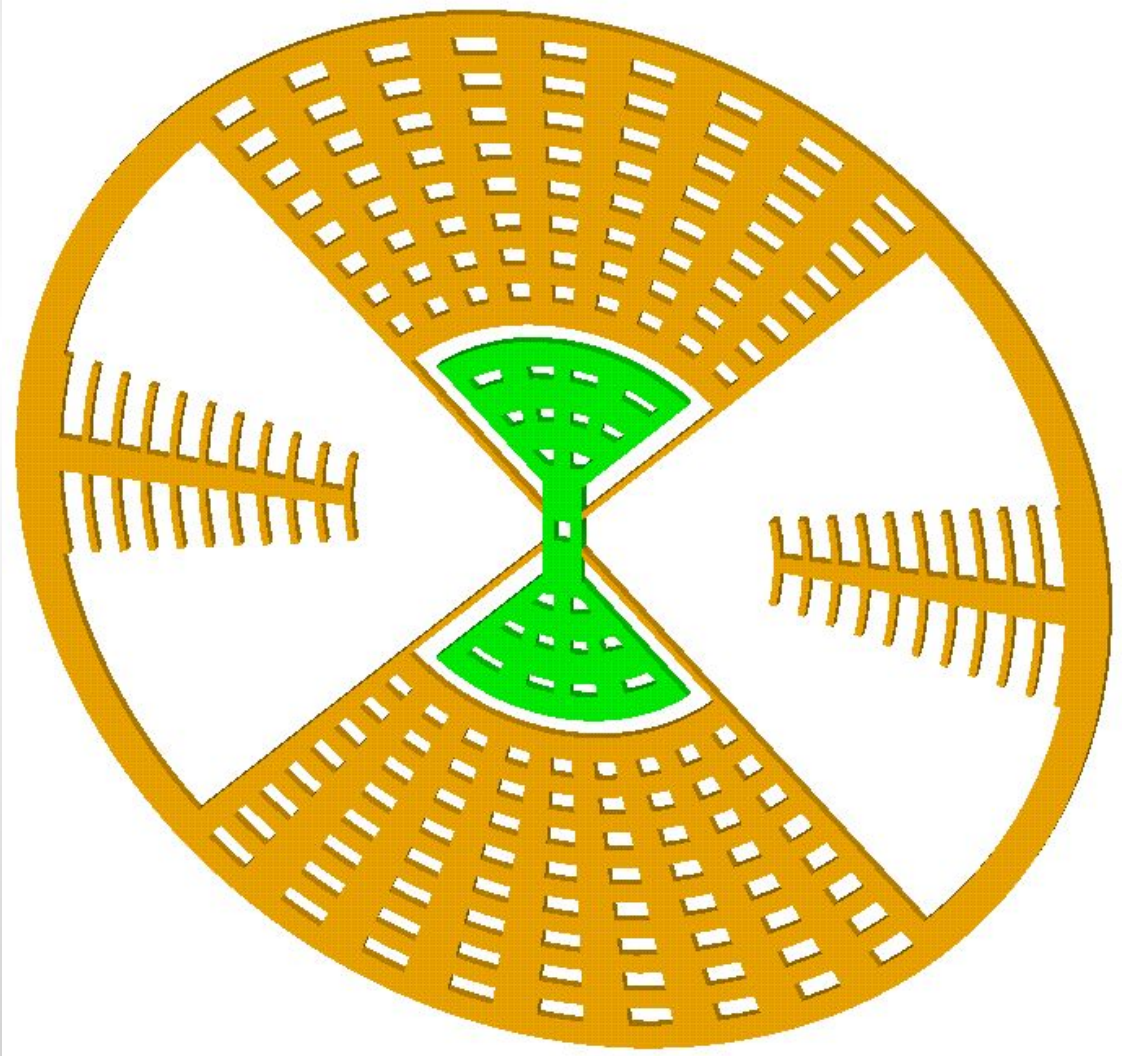
Finite element modeling and modal analysis of micromechanical gyroscope sensitive element

3D model



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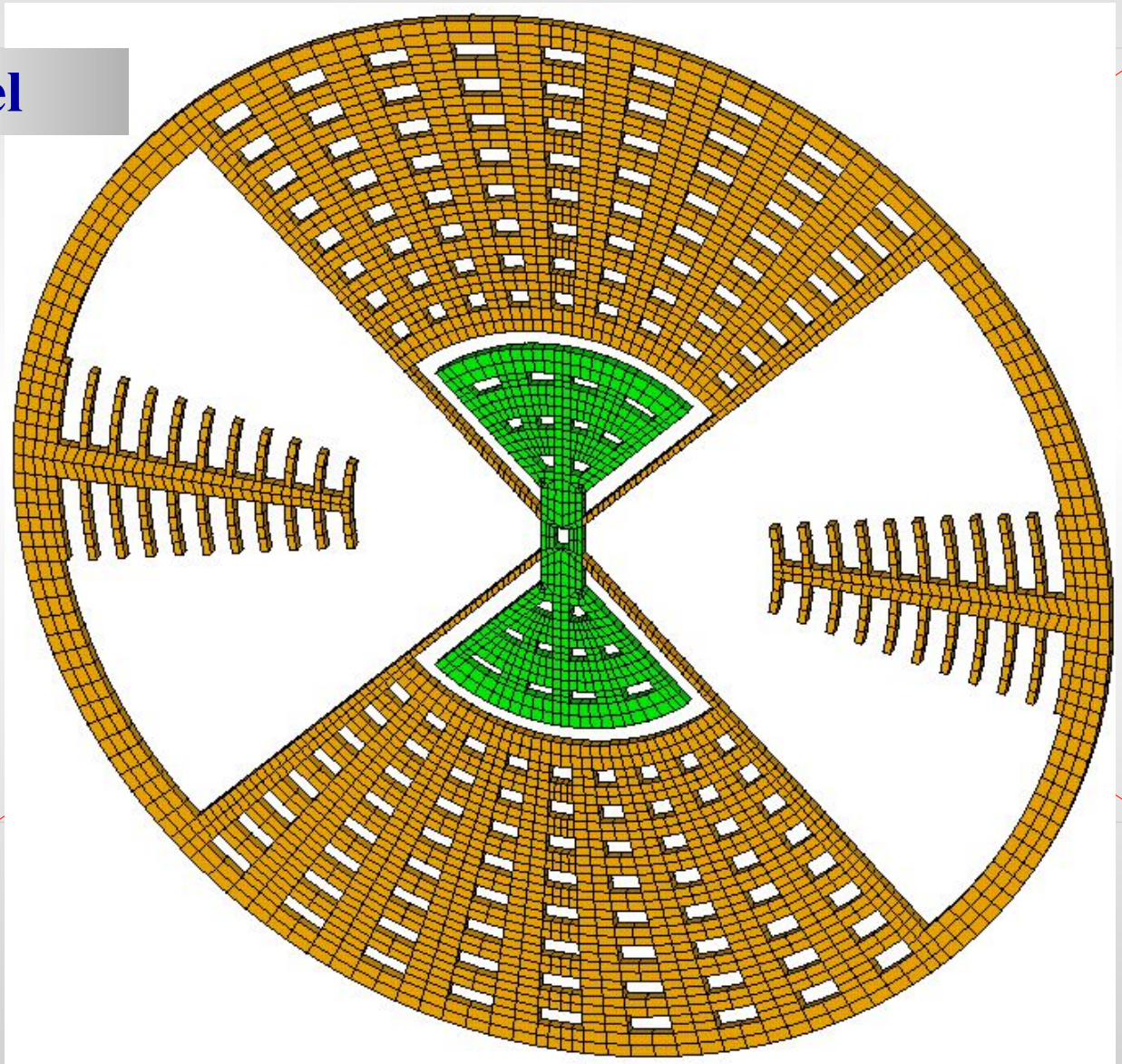
3D FE model

NE = 3328
NDF = 88416



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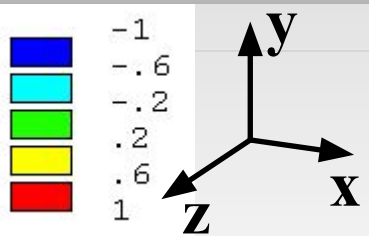
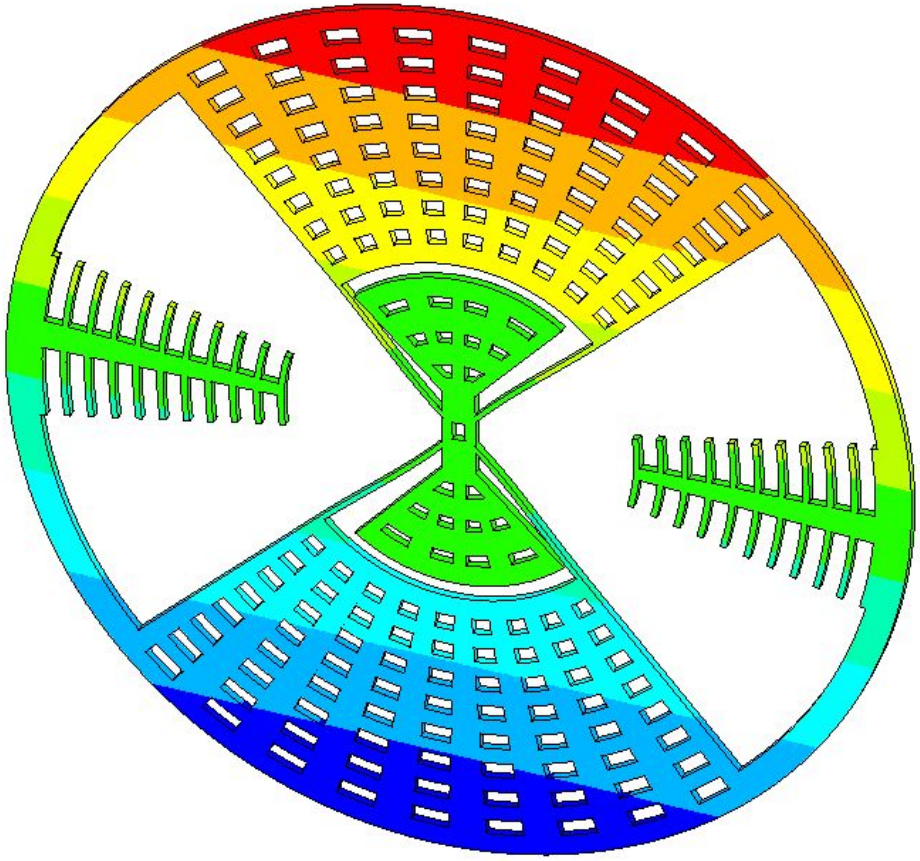
First natural mode

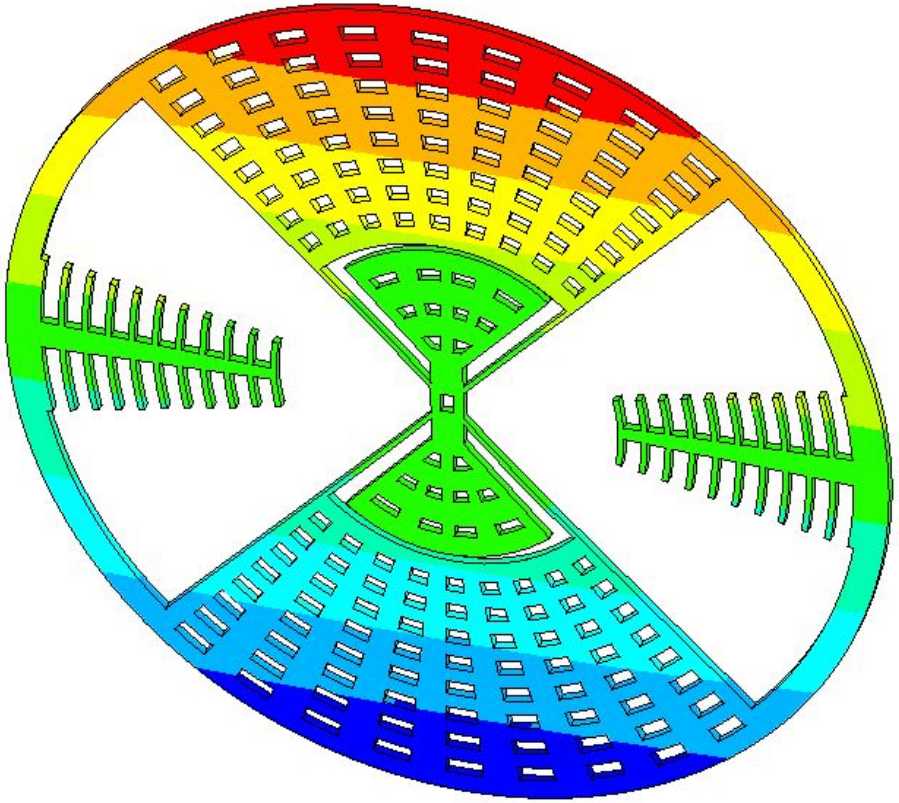
F_1



Second natural mode

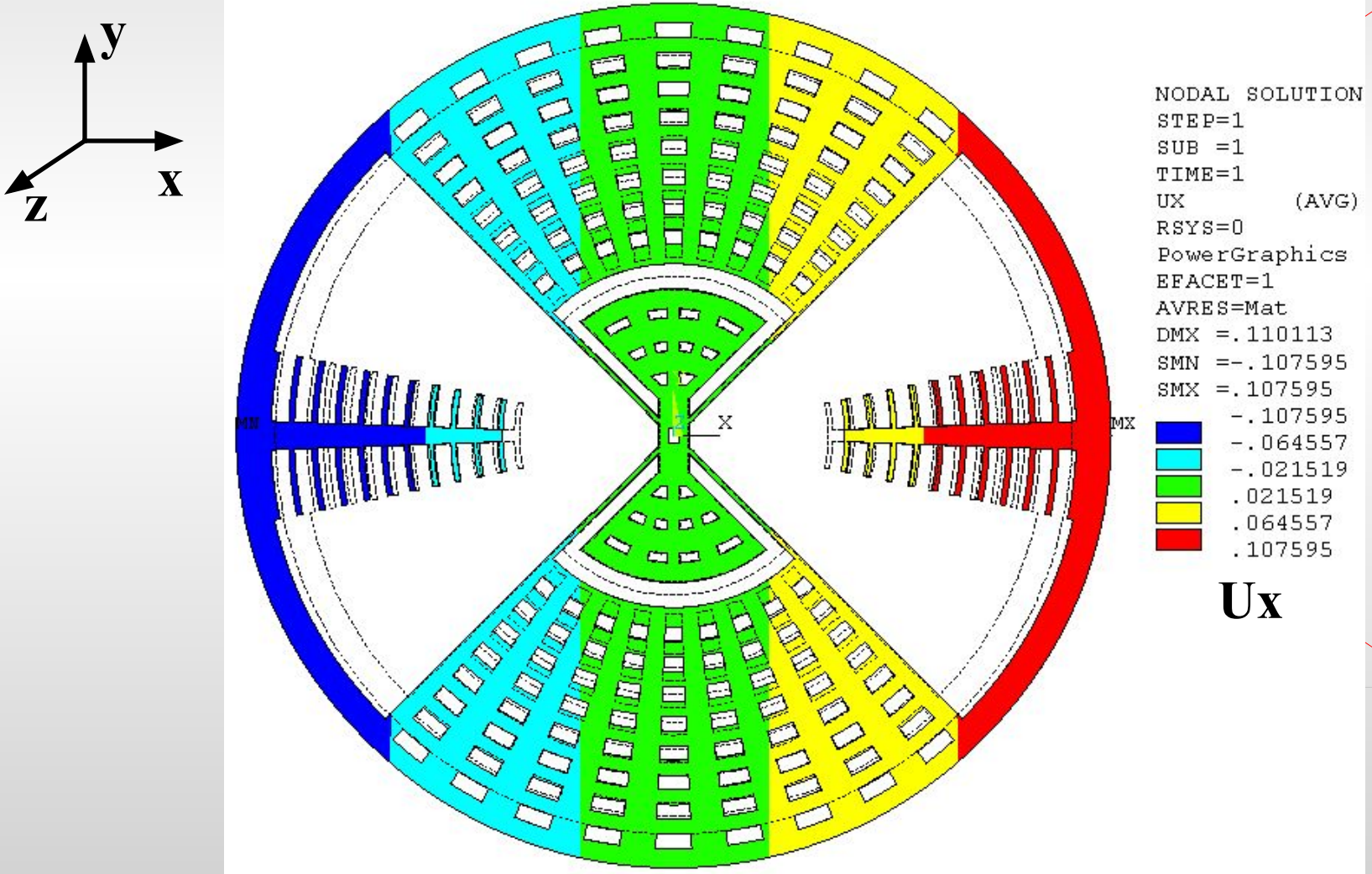
F_2





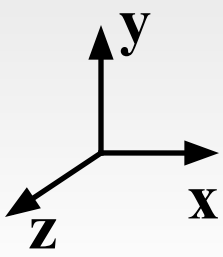
Finite element modeling and modal analysis of micromechanical gyroscope sensitive element

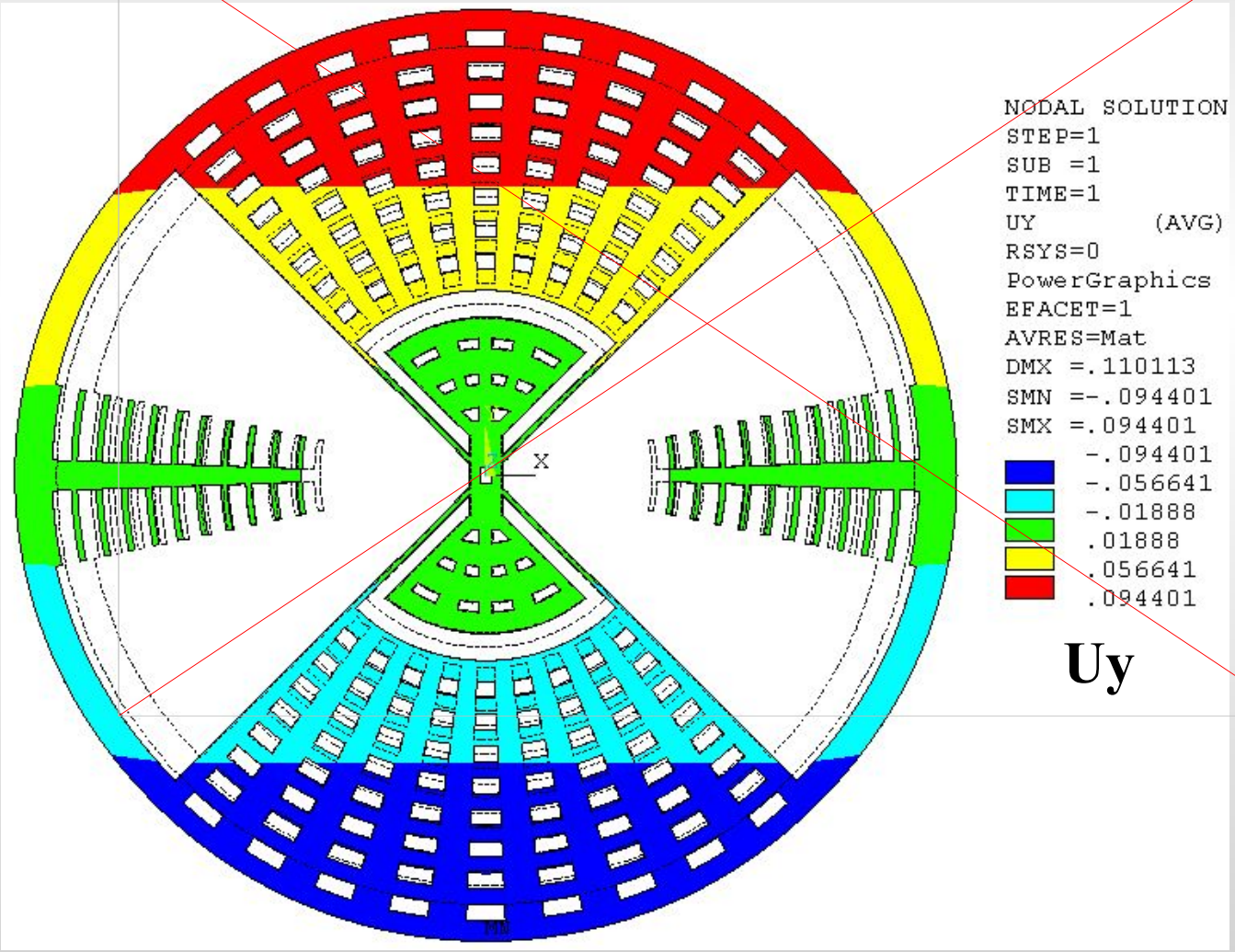
Displacements Ux



Finite element modeling and modal analysis of micromechanical gyroscope sensitive element

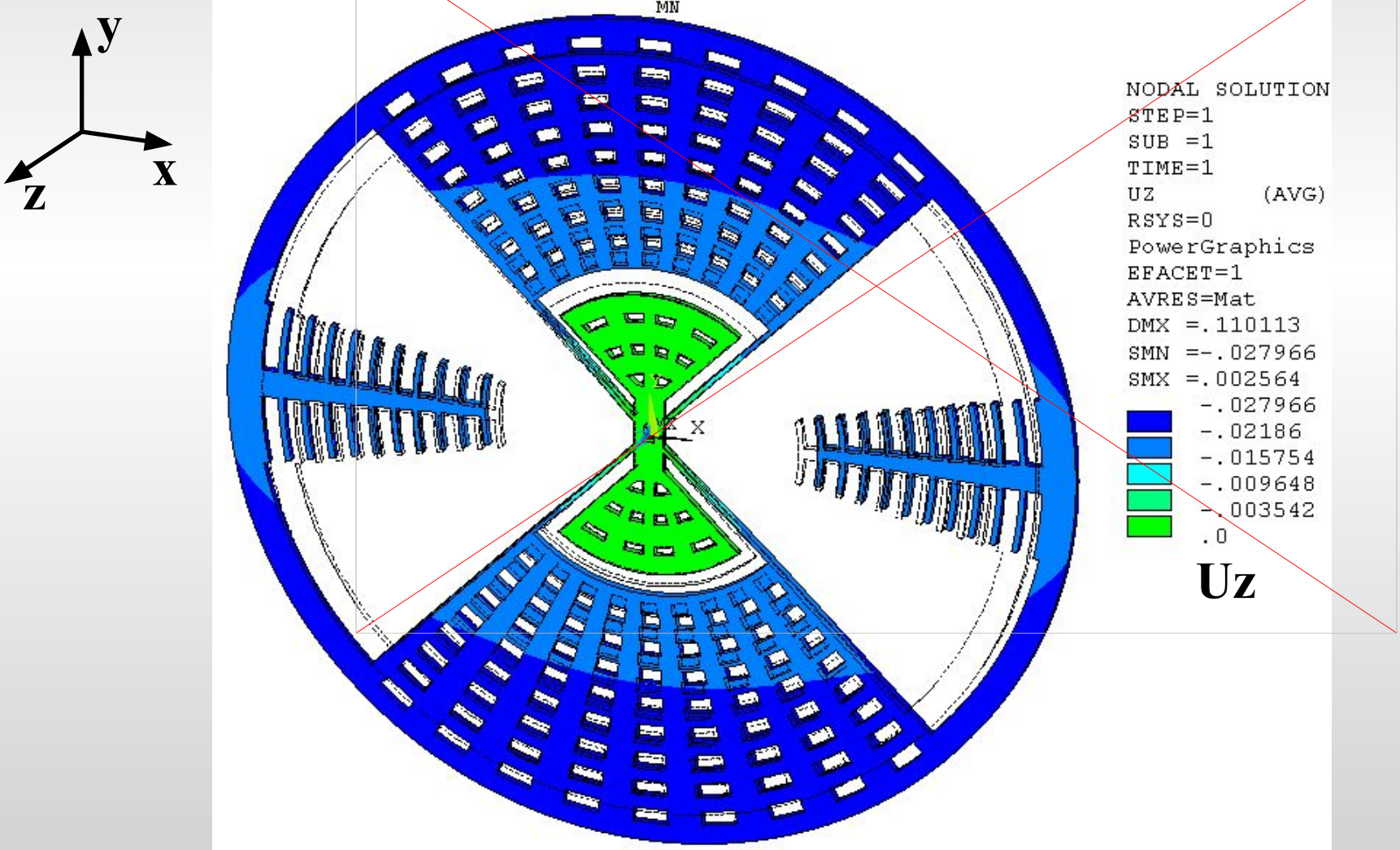
Displacements Uy





Finite element modeling and modal analysis of micromechanical gyroscope sensitive element

Displacements Uz



Finite element modeling and modal analysis of micromechanical gyroscope sensitive element

Influence of deformed state arising at sensitive element manufacturing on a spectrum of natural frequencies

	without account of deformed state	with account of deformed state (T = 20°C)
1st natural frequency	F_1	$0.994 * F_1$
2nd natural frequency	F_2	$0.995 * F_2$