Diametrically oriented magnets:
In these analyses two solution types have been utilized(magnetostatic and transient). In all graphs the angle θ is an angle difference between the magnetic axis of the north pole and the positive y direction of the coordinate system. The rotation direction is counter clock wise. x-axis of all graphs is aligned with $\theta = 0$.
-Stator and rotor are selected as steel 1008 from Maxwell's library.
-PM's are chosen to be NdFe35
-North pole is represented by red color.

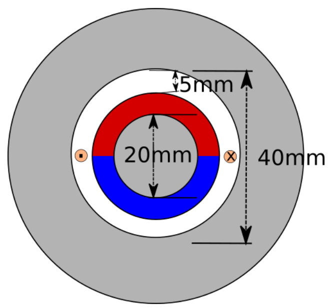

Figure 1: Magnetic System

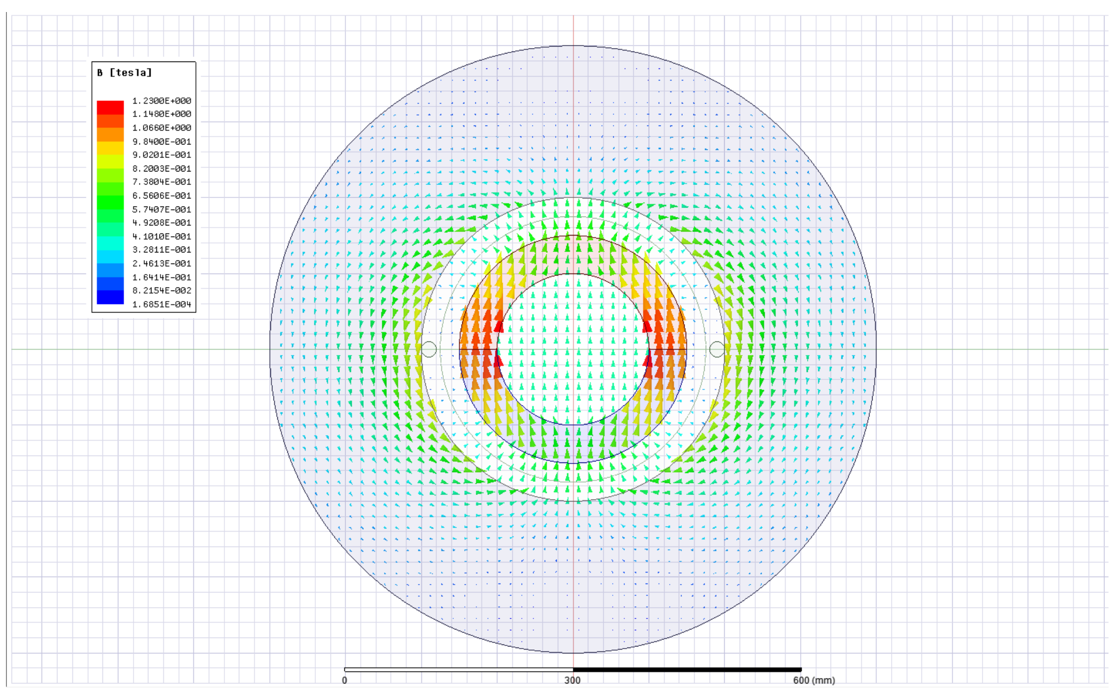

Figure 2: Flux Density Vector

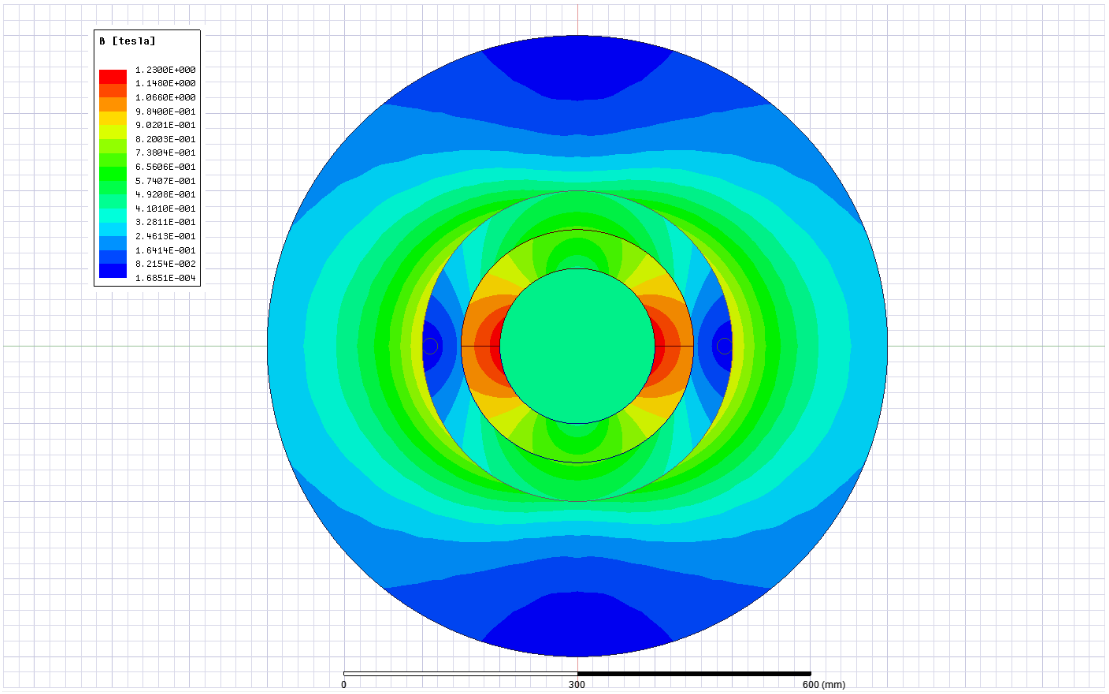

Figure 3: Flux Density Magnitude

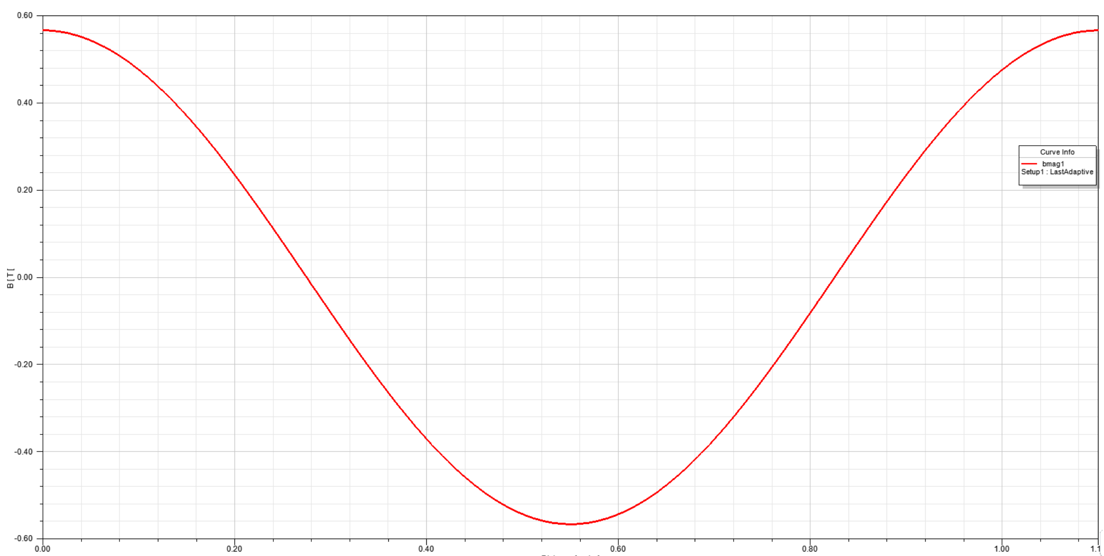

Figure 4: Flux Density Distribution around the air gap

Rotor rotates at 1500 r.p.m(Transient Alaysis-360 degree rotation):

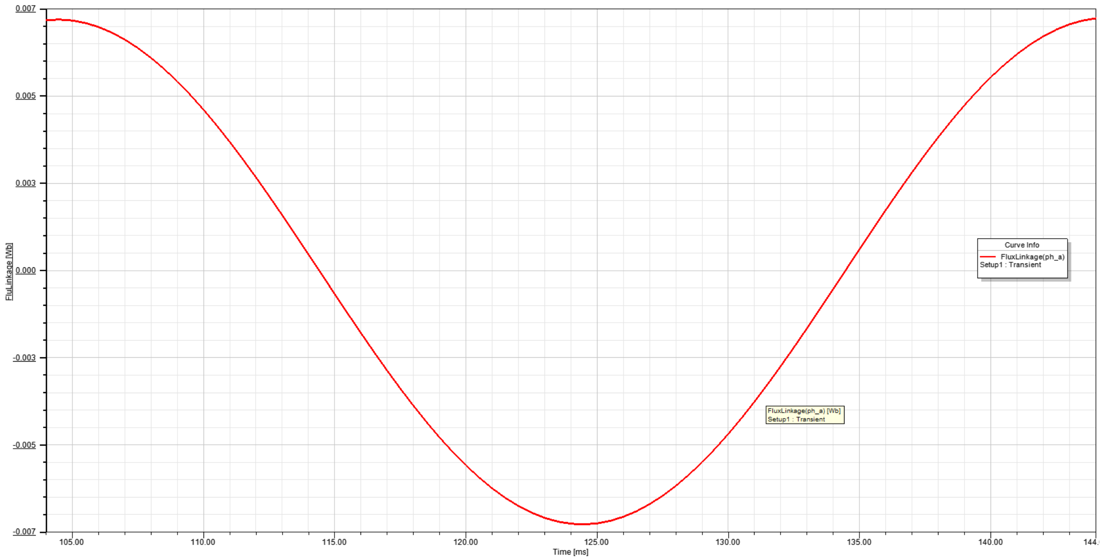

Figure 5: Flux linkage w.r.t time (0 to 360 degree)

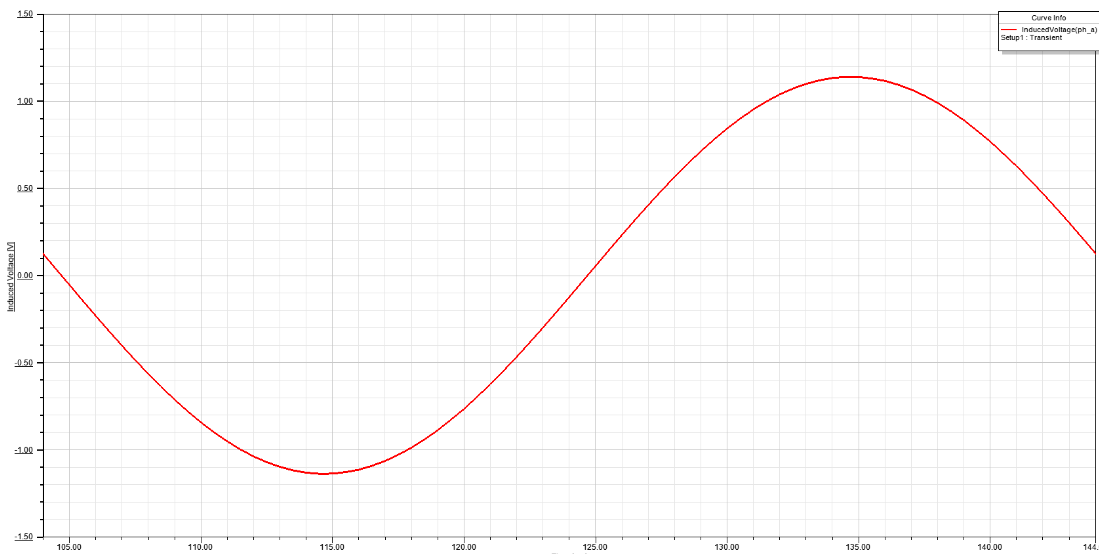

Figure 6: Induced Voltage w.r.t time

Radially Magnetized PM:

Rotor is stationary:

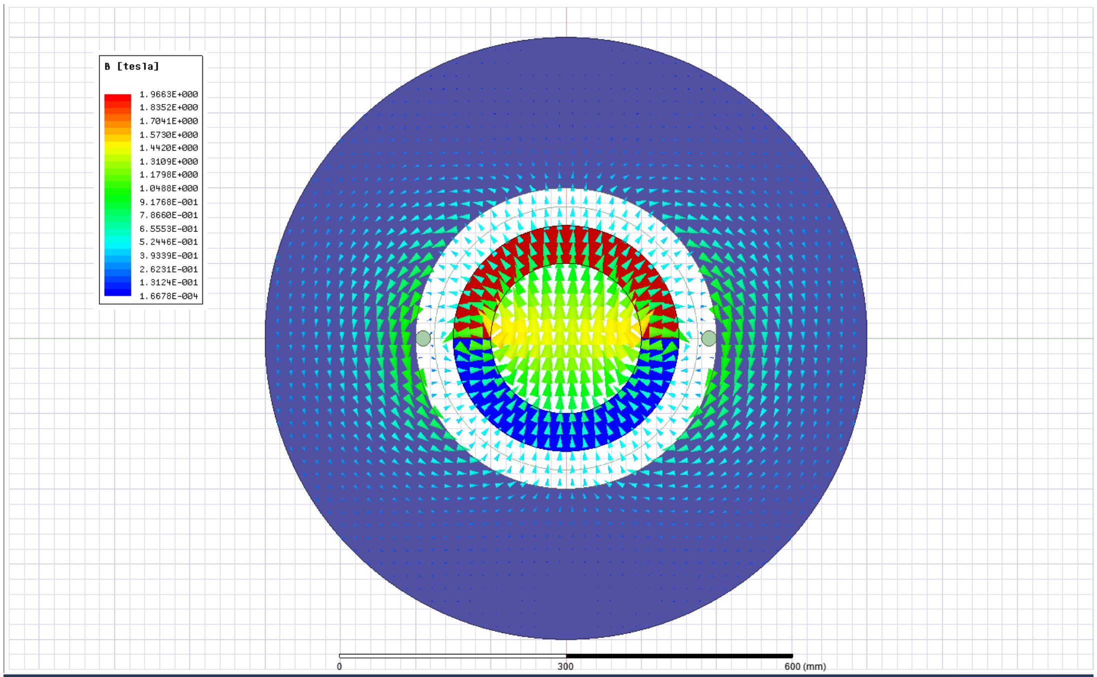

Figure 7: Magnetic Flux Density Vector Radially Magnetized Magnets

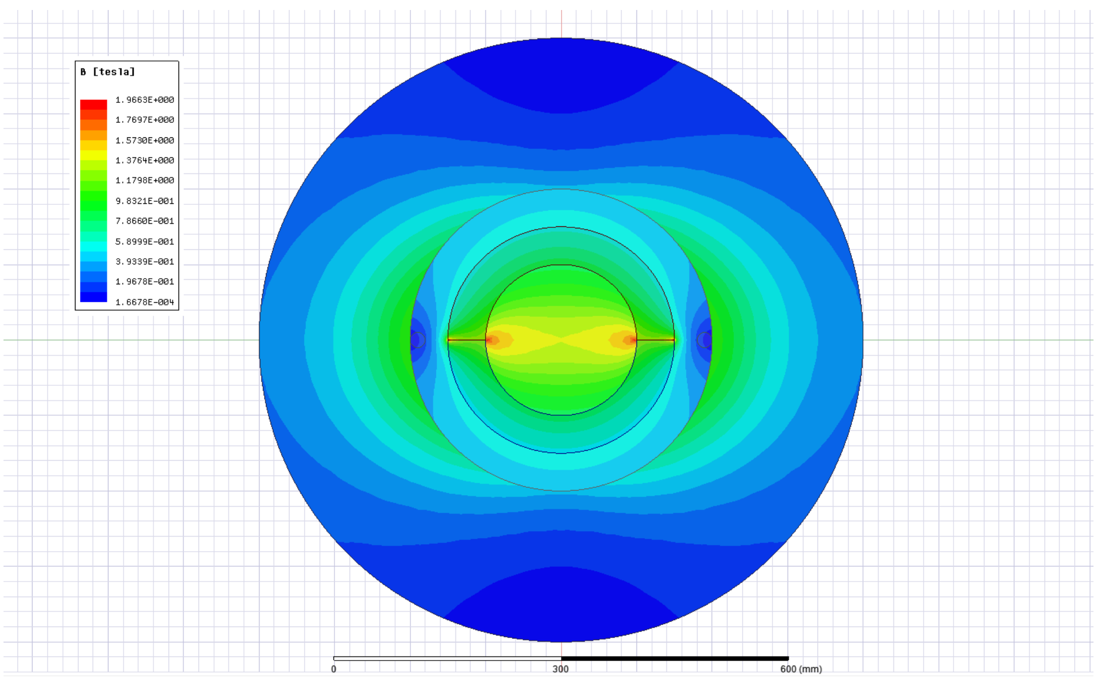

Figure 8: Magnetic Flux Density Magnitude

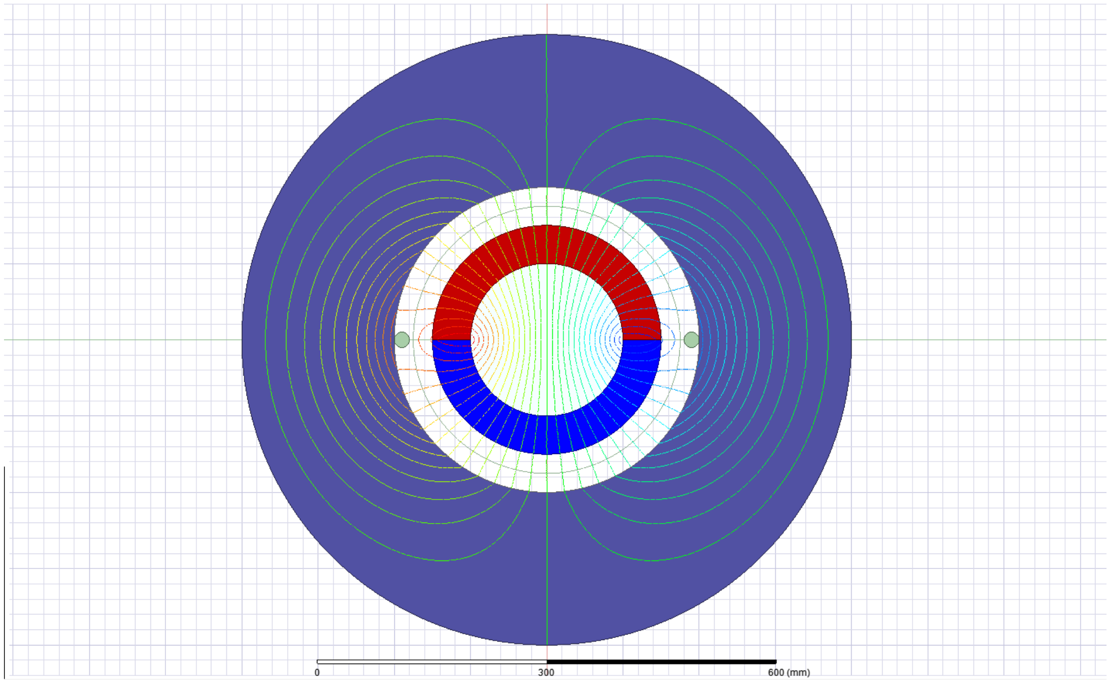

Figure 9: Flux Lines

Radial flux density Distribution:

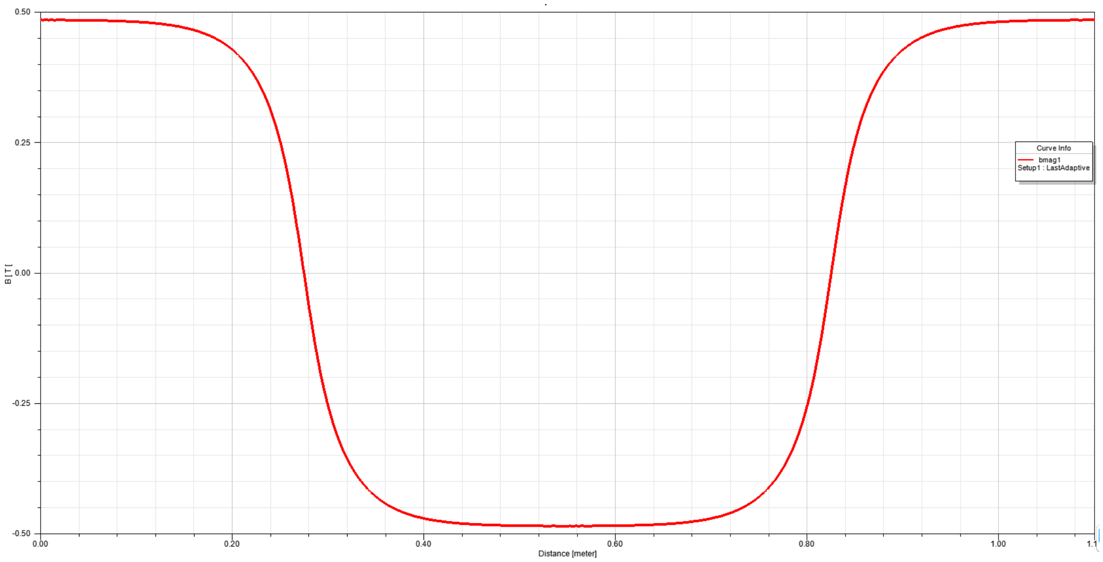

Figure 10: Flux Density Distribution around the air gap

Rotor rotates at 1500 r.p.m(Transient Alaysis-360 degree rotation):

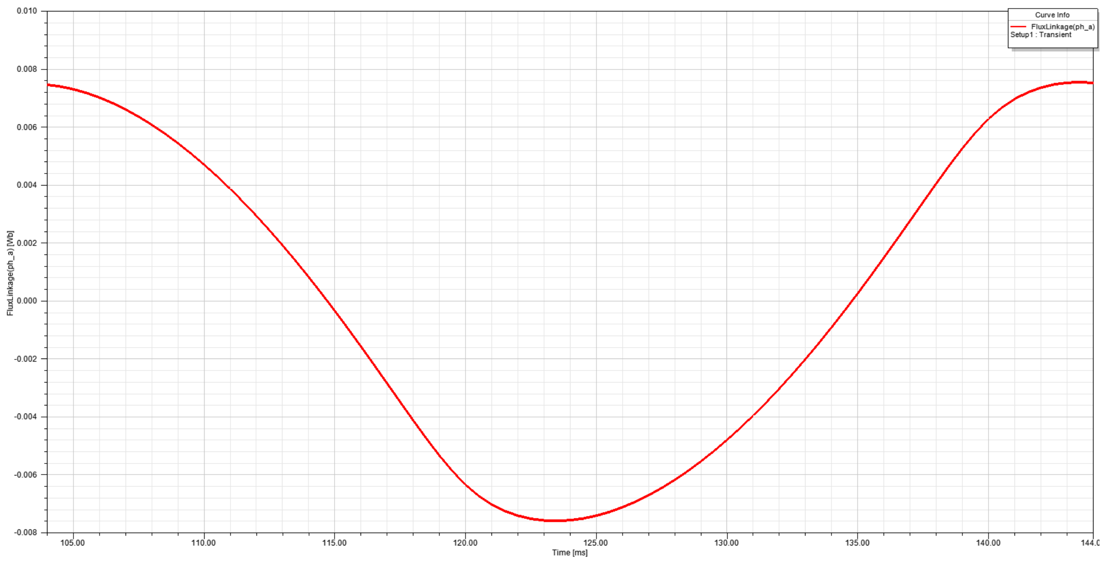

Figure 11: Flux linkage w.r.t time (0 to 360 degree)

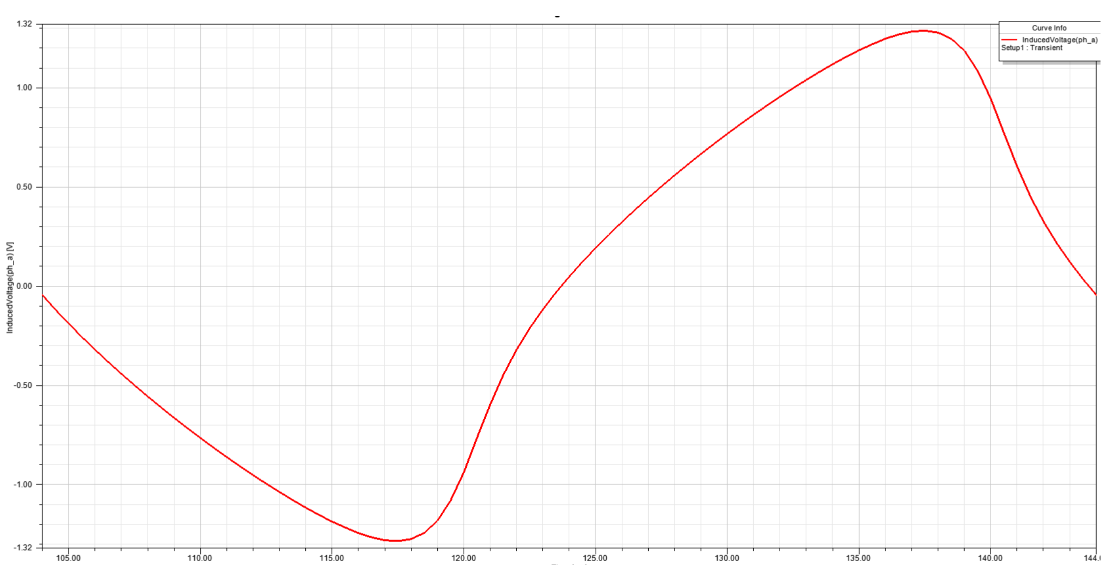

Figure 12: Induced Voltage w.r.t time

In the two figure above the coil has a very low resistance and the current flowing in the coil to to induction distort the flux linkage away from being linear. I have increased the resistance so that the linearity in radial mode become more visible.

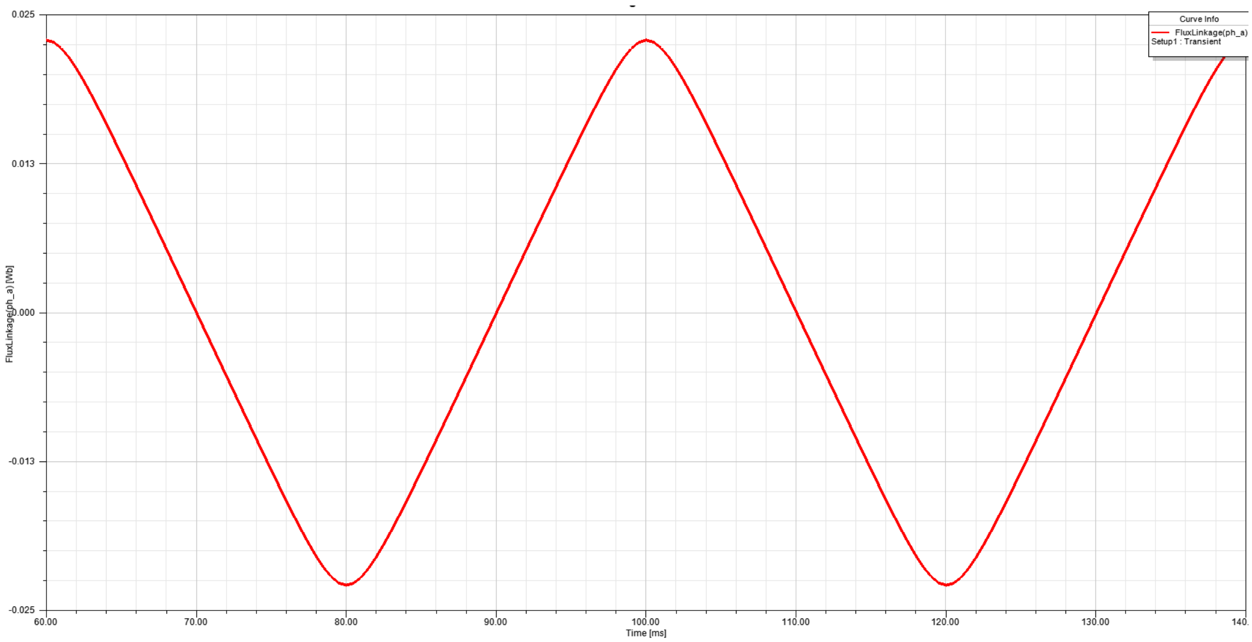

Figure 13: Flux linkage w.r.t time linearized

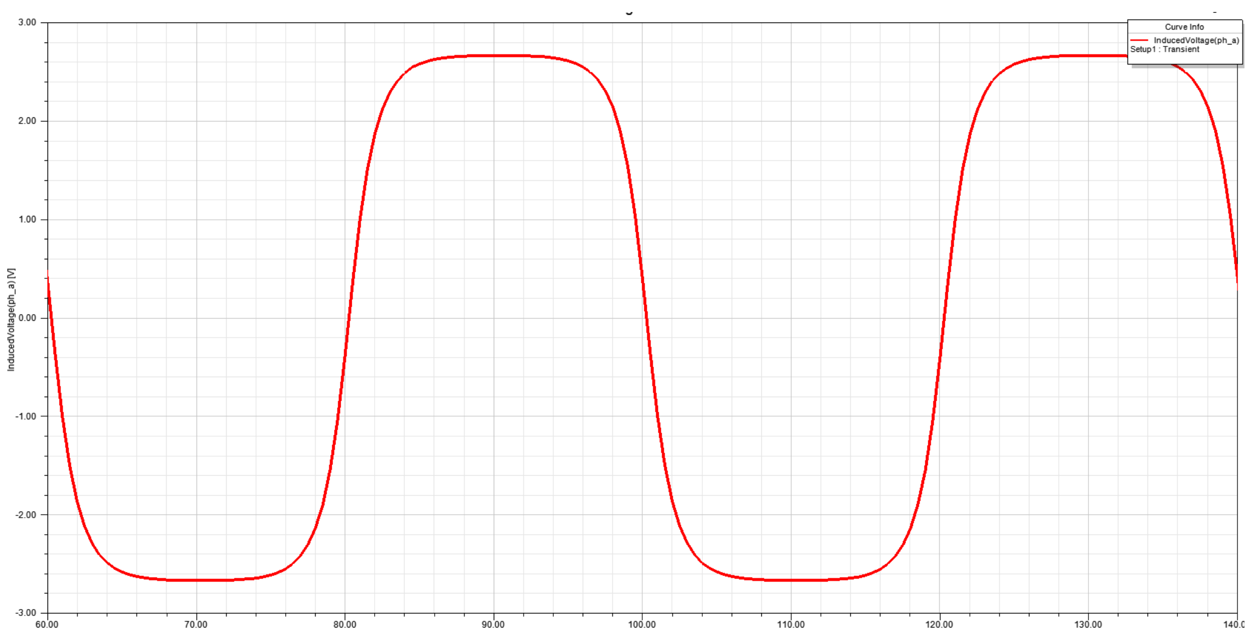

Figure 14: Induced Voltage w.r.t time linearized