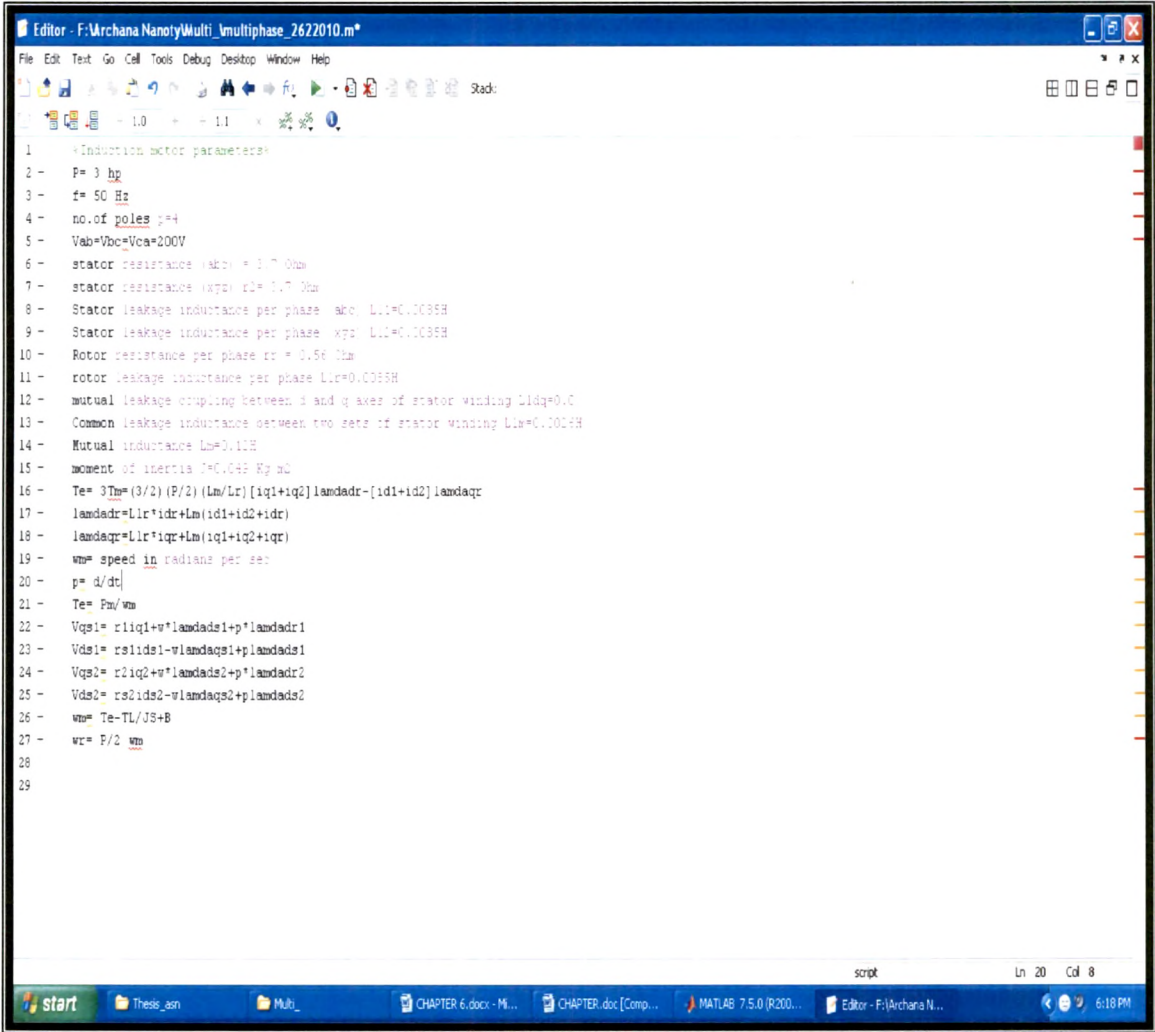


Appendix – II

APPENDIX- II

I) Matlab – software program in m-file for six phase Proto type Induction motor parameter:-



```

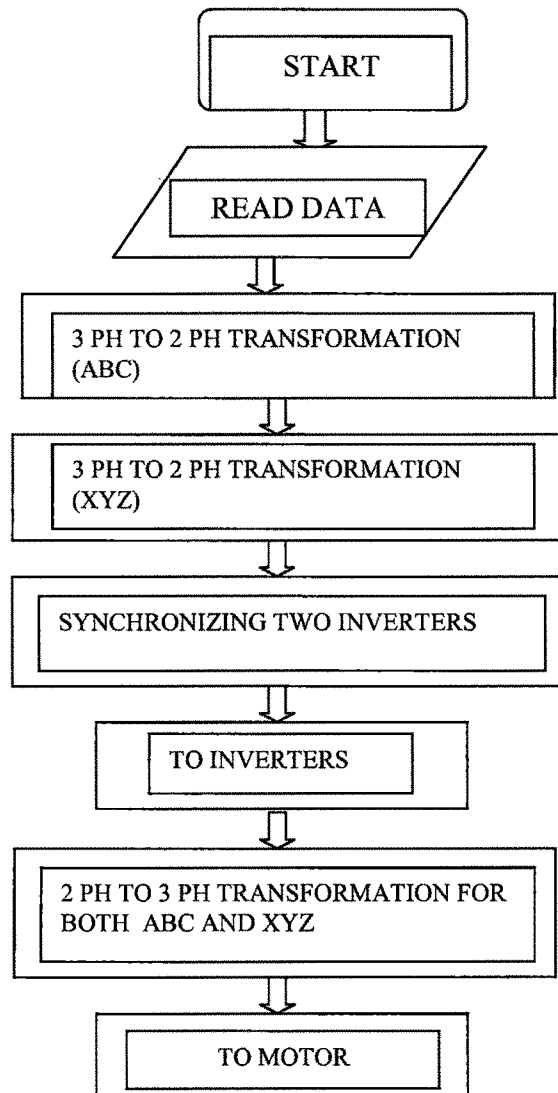
Editor - F:\Archana Nanoty\Multi\_multiphase_2622010.m*
File Edit Text Go Cell Tools Debug Desktop Window Help
1 %Induction motor parameters*
2 P= 3 hp
3 f= 50 Hz
4 no.of poles p=4
5 Vab=Vbc=Vca=200V
6 stator resistance (abc) = 1.7 Ohm
7 stator resistance (xyz) r2= 1.7 Ohm
8 Stator leakage inductance per phase abc L1l=0.0035H
9 Stator leakage inductance per phase xyz L1l=0.0035H
10 Rotor resistance per phase rr = 0.56 Ohm
11 rotor leakage inductance per phase Llr=0.0035H
12 mutual leakage coupling between d and q axes of stator winding L1dq=0.0
13 Common leakage inductance between two sets of stator winding L1a=0.0014H
14 Mutual inductance Lm=0.11H
15 moment of inertia J=0.045 Kg m2
16 Te= 3Tm*(3/2)*(P/2)*(Lm/Lr)*(iq1+iq2)lamdadr-(id1+id2)lamdaqr
17 lamdadr=Llr*idr+Lm(id1+id2+idr)
18 lamdaqr=Llr*iqr+Lm(iq1+iq2+iqr)
19 wm= speed in radians per sec
20 p= d/dt
21 Te= Pm/wm
22 Vqs1= r1iq1+w*lamdads1+p*lamdadr1
23 Vds1= r1ids1-vlamdaqs1+p*lamdads1
24 Vqs2= r2iq2+w*lamdads2+p*lamdadr2
25 Vds2= r2ids2-vlamdaqs2+p*lamdads2
26 wm= Te-TL/JS+B
27 wr= P/2 *wm
28
29

```

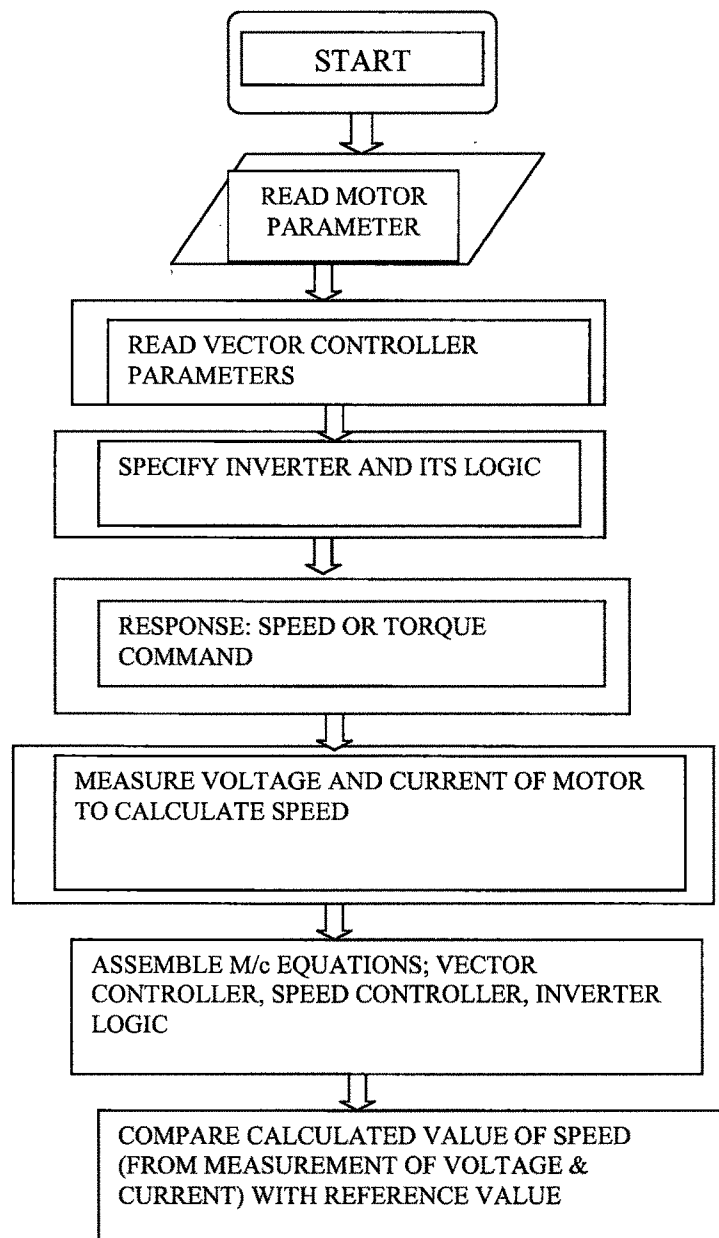
Ln 20 Col 8

start Thesis_asn Multi_ CHAPTER 6.docx - M... CHAPTER.doc [Comp... MATLAB 7.5.0 (R20... Editor - F:\Archana N... 6:18 PM

II] FLOW CHART FOR THREE PHASE TO TWO PHASE TRANSFORMATION



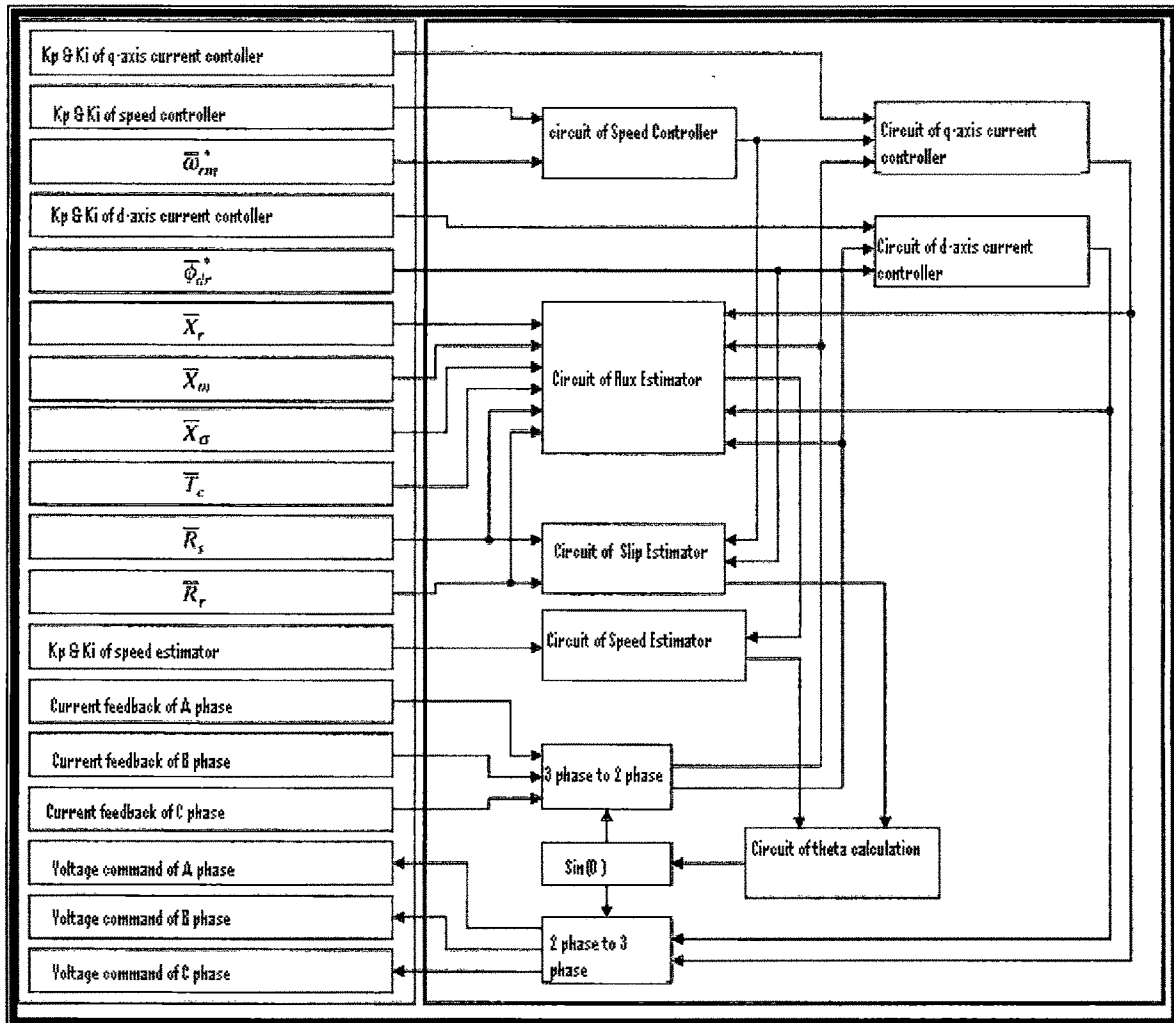
III] FLOW CHART FOR VECTOR CONTROL



IV] FPGA Implementation

A:-FPGA implementation of Sensor-less vector control

Algorithm (For three phase set ABC)

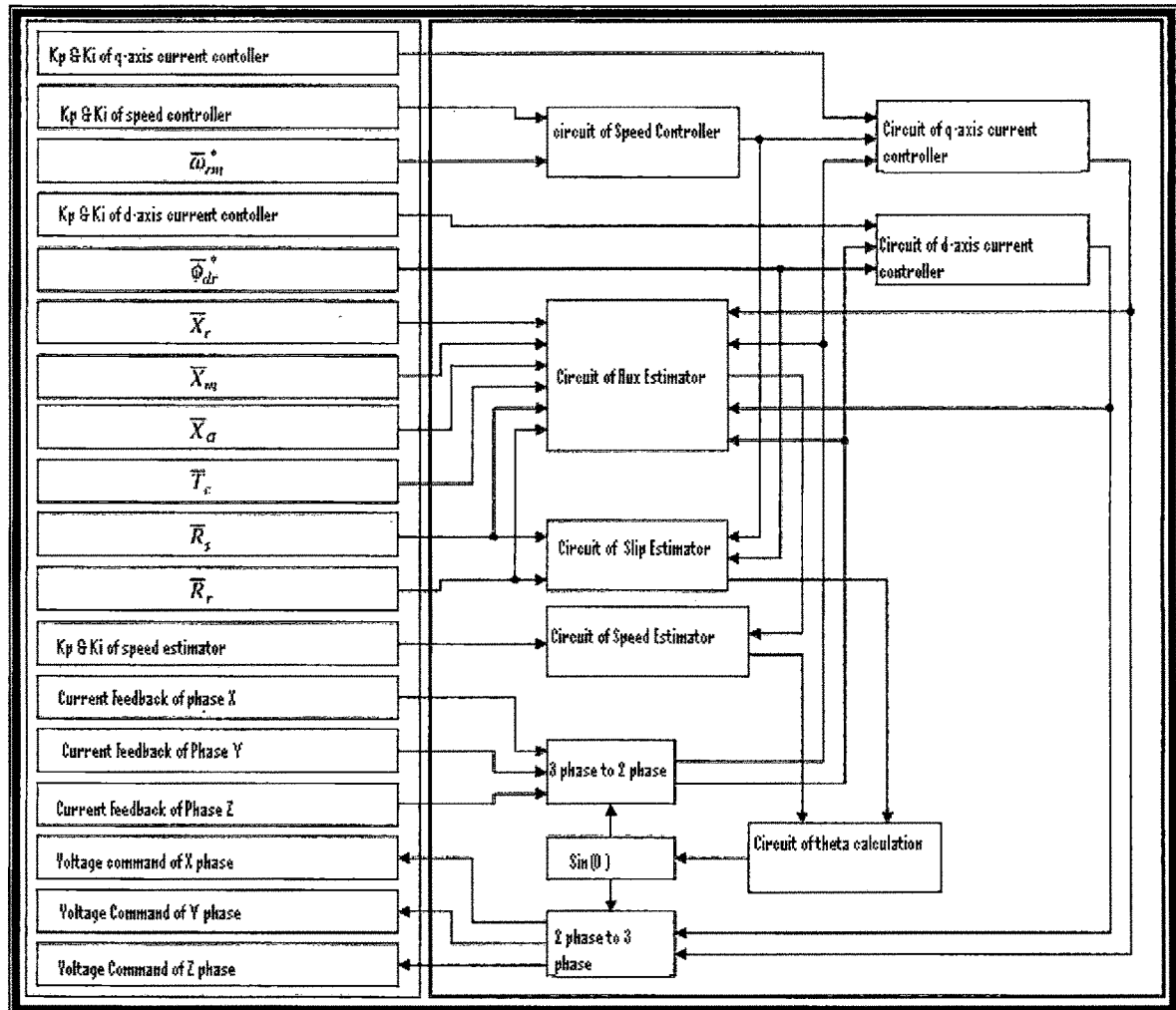


Interface between FPGA
and Microprocessor

FPGA Implementation

B:-FPGA implementation of Sensor-less vector control

Algorithm (For three phase set XYZ)



Interface between FPGA
and Microprocessor

FPGA Implementation