Fig. 6. Spectra energies of the stator currents - Case of 30% of short circuit in all the phases

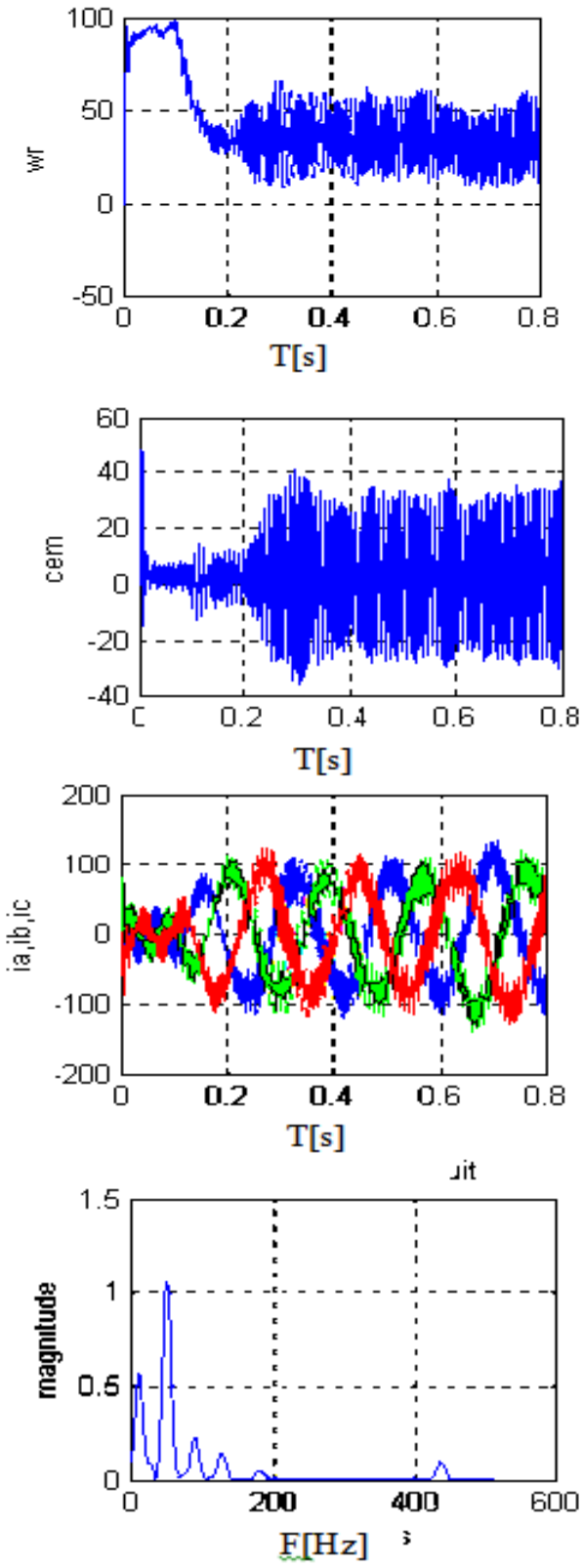

Fig. 7.Speed, torque, stator currents, spectra energy of the current

V. Results Analysis

The simulation has been done with Matlab software. Figure 4 presents angular speed, electromagnetic torque, and spectra of the current of the safe machine we remark that the spectra showes the fundamental harmonic and few others due to the inverter.

Figure 5 showes speed torque and stator currents of phase A, B and C in the case of 30% of short circuit in phase A, 10% in the phase B and 20% in the phase C

And theirs respectives spetra are shown on figure 6 , we note the apparition of new harmonics around the fundamental one their amplitudes are proportional to the deffect. In figure 7 we present the case of 30% of short circuit in all the phases , the oscillations of both of speed , torque and currents have increased in relation to the last case . Speed is quantized in radian by second, torque by newton meter, and currents by ampere

VI. Conclusion

A short circuit touchdown the three phases, would induce very strong currents which would lead to the fusion of the drivers, however, one short circuit near of the neutral generates an imbalance without causing the fusion of the drivers [Boumegoura 01].

The appearance of a short circuit in stator winding generates an increase in the stator currents and the appearance of other harmonics in the latter, the average electromagnetic torque of the machine remains constant, although it is disturbed, having oscillations proportional to the defect.

Speed has also oscillations around its permanent value, the latter decreases with the increase in the extent of the defect..

VII. Bibliography

A conclusion section is usually required. Although a conclusion may review the main points of the paper, do not replicate the abstract as the conclusion. A conclusion might elaborate on the importance of the work or suggest applications and extensions.