



Simulation of the effect of voltage transients on an induction motor with ATP/EMTP

José Gonçalves¹, José Baptista¹, Luís Neves^{2,3} and Filipe Tadeu Oliveira^{2,3}

¹ Department of Engineering, University of Trás-os-Montes and Alto Douro
5001-801 Vila Real, Apartado 1013, Portugal
Phone: +351 259 350 000, e-mail: jagoncalves@gmail.com

² Department of Electrical Engineering, School of Technology and Management, Polytechnic Institute of Leiria
Campus 2 – Morro do Lena – Alto do Vieiro, 2411-901 Leiria, Apartado 4163, Portugal
Phone: +351 244 820 300, e-mails: lneves@estg.ipleiria.pt, ftadeu@estg.ipleiria.pt

³ Institute for Systems and Computers Engineering at Coimbra
Rua Antero de Quental, N°199, 3000 - 033 Coimbra, Portugal

Abstract. The present study aims at understanding the behaviour of the induction motor when subject to different kinds of disturbances. The intention was to broaden the study of some disturbances by using a transient simulation software, ATP/EMTP, and comparing results with laboratory measurements. Obtained simulation results approached very closely the laboratory measurements, with small differences probably due to the model simplifying assumptions and uncertainties associated to the model parameter estimation process. However, although this theoretical model presents a response very similar to the actual model, improvements could be made by better modelling of the mechanical load, and by using different kinds of dynamic loads. Also, the use of more accurate laboratory equipment, and namely, programmable power supplies could lead to more accurate comparisons and better learning.

Key words

Power quality, Induction electric machines, Transient behaviour simulation.

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