

Experimental stability study of modulated model predictive current controllers applied to six-phase induction motor drives

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Abstract

Modulated model predictive current control techniques are considered an interesting option to control multiphase drives due to their control flexibility and fast dynamic response. However, a practical stability study of those techniques is still missing. This article presents an experimental stability study, to quantify the limits of stability, to modulated predictive current controllers applied to an asymmetrical six-phase induction machine. Experimental results are presented to verify the theoretical analysis results in terms of stability ranges regarding sampling frequency and rotor speed.