

SOME PHENOMENA IN THE ASYNCHRONOUS MACHINE ROTOR IN STEADY-STATE AND TRANSIENT CONDITIONS

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Abstract. An analysis of the phenomena in the rotor circuit of the asynchronous machine is presented. Starting from the rotor voltages equation in spatial phasors form, the corresponding phasor diagram is established. The weight and position of different voltage equation components are analysed, observing the differences between the steady-state and transient conditions. The effect of the variation of rotor flux, respectively the alteration of the relative position of the spatial phasors are studied especially. These effects are analysed in starting conditions, suddenly loading and when changing the supply voltage.

Key words: spatial phasor; induction machine; rotor circuit; PSpice.