

The extraction of the induction machine parameters for the identification is carried out by the use of two sets experimental methods. The well known "classical tests" (no-load, blocked-rotor, dc), and a new method that eliminates the awkward blocked-rotor test. On the other hand, the stated methods are completed by an identification using least squares techniques. The experimentation is based on the measurements of the stator voltages and currents at different operating levels of the induction motor model. The new method is based on the evaluation of all the ac parameters (resistances and leakage reactances) of a polyphase induction motor. The elements of the model are evaluated from the circular impedance locus of the "Steinmetz" model or to an adapted six-element-model. Data points on the locus are obtained with the machine under test, operating in the motor mode as well as in the asynchronous-generator mode. The variation of the parameters of the equivalent-circuit as a function of the independent parameter (slip as an example) is observed. A comparison of the obtained values with the impedance locus method and the classical tests is made. Satisfactory results are obtained