

## **CALCULATION OF ELECTROMECHANICAL CHARACTERISTICS OF SOLID-SALIENT POLES SYNCHRONOUS MOTOR BY USING FEM 3.0**

### **ABSTRACT**

In this paper is presented methodology for numerical calculation of electromechanical and electromagnetic characteristics of solid salient poles synchronous motor (SSPSM). Motor has following rated data:  $P_n=2.5$  kW;  $U_n=240$  V,  $I_f=5.5$ A;  $U_f=30$ V  $2p=4$ . Mathematical model for nonlinear and iterative calculation is developed by using finite element method. Software package FEM 3.0 is used for automatic generation of finite element mesh, distribution of magnetic flux density in motor cross section as well as for calculation of electromagnetic and electromechanical characteristics.

**Keywords:** solid salient poles synchronous motor, numerical calculation, FEM 3.0, electromagnetic characteristics, electromechanical characteristics.