USE OF THE FINITE ELEMENT METHOD FOR SIMULATION OF HEAT GENERATION IN DISC BRAKES

Summary – The aim of this paper was to investigate the temperature fields of the solid disc brake during short, emergency braking. The standard Galerkin weighted residual method was used to discretize the parabolic heat transfer equation. The finite element analysis for twodimensional model was performed due to the heat flux ratio constantly distributed in circumferential direction. Two types of disc brake with appropriate boundary and initial conditions were developed. Results of calculations for the temperature distributions in radial and axial direction are presented. It was found that presented finite element technique for two-dimensional model with particular assumption in operation and boundary conditions agree well with so far achievements in this field.