SIMULATIONAL METHODS OF DAMAGE IDENTIFICATION IN MECHANICAL STRUCTURES

Summary – The paper deals with problem of damage identification in mechanical structures. The presented methods are based on correlational mechanisms for chosen parameters of real and model structure. To determine proper parameters of structure behaviour the finite element method was chosen. On this stage of research the measurements of a real structure were simulated numerically based on randomly noised response of the model. With respect to suspected polimodal character of identification functionals an evolutionary algorithm was proposed as reliable tool for solving these types of problems.