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15. Numerical Analysis and Scientific Computing

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Mathematical Problems of Condition Prognosing of Land Slopes and Slides

Stability and comfort in building exploitation depend upon the conditions of their fundaments. This problem is difficult for solution, because it is impossible to create the uniform general theory due to difficulty and individuality of litodynamic process. To determinate landslide characteristics in the place can be solve the mathematics problem of identification (Vovk A. , Kalukh Y., and Zykh Y. 1994), which is led to the conditional minimization of quality functional. It consists of sum of quadrates of errors between measured and calculated values. As the results of solving of the problem of nonlinear programming the values of stress distribution in the soil are determinate according to the height of experimental mounting - columns, motion direction of soil and velocity of its displace.