## Simulation of interaction cylindrical bodies coated with wear and heat

© E.A. Gubareva, T.Yu. Mozzhorina, A.N. Shchetinin

Bauman Moscow State Technical University, Moscow, 105005, Russia

To embrace more phenomena in the contact region, the contact sheme between cylindric solids and soft coatings has been simplified at most. A nonlinear expression for the dependence of friction factor on contact has been offered. Relation of contact temperature with contact pressure is determined.

Keywords: coating, friction, heat generation, contact pressure, contact temperature.

**Gubareva E.A.** (b.1982) graduated from Lomonosov Moscow State University in 2004. Ph.D., Assoc. Professor of the Computational Mathematics and Mathematical Physics Department of Bauman Moscow State Technical University. Author 8 publications in the field of contact mechanics. e-mail: gubareva\_ea@pochta.ru

**Mozzhorina T.Yu.** (b.1959) graduated from Moscow Aviation Institute in 1982. Ph.D., Assoc. Professor of the Computational Mathematics and Mathematical Physics Department of Bauman Moscow State Technical University. Author of 15 publications in the field of mathematical simulations turbojet engine, of mathematical simulations flight of airplane, of optimization power-plant in system of airplane. e-mail:mozzhorina@mail.ru

**Shchetinin A.N.** (b.1950) graduated from Lomonosov Moscow State University in 1972. Ph.D., Assoc. Professor of the Computational Mathematics and Mathematical Physics Department of Bauman Moscow State Technical University. Author of over 20 publications in the Lie groups theory and the topology of homogeneous spaces.