

# MATHEMATICAL MODELS FOR STUDY AND ASSESSING OF ADHESIVE MECHANICAL ATTRITION PROCESS OF COUPLING ELEMENTS IN SLIDING FRICTION

UNGUR, P.; POP, P.A.; GORDAN, M.; GORDAN, C. & POP, M.T.

**Abstract:** In paper has presented certain opinions and appreciations about of quadratic mathematical functions of friction, derivate from classical concept of Lorentz attrition curve, for adhesion attrition in time of coupling elements sliding friction. The Lorentz wear curve  $W=f(t)$  presents the evolution of third equation on range-OABC. This curve has an inflexion point and included a running in zone-OA, a stability zone-AB and damage zone-BC. The new concept given other interpretations of wear functions  $W=f(B,S)$  and  $W=f(t)$ , being description as parabolic functions in time and a parabolic function of wear in time for running in and stability wear. These have known as normal wear, with gradient of wear curve a parabola with top in origin and symmetry axe-Ot horizontal with ascendant shape of curve in running in period-OA, and low ascendant aspect on AB curve for stability wear, the function has a parabolic equation.

**Key words:** attrition, contact, friction, parabola, sliding



**Authors' data:** Prof. PhD. **Ungur**, P[etru]; Assoc. Prof. PhD. **Pop**, P[etru] A[drian]; Prof. PhD. **Gordan**, M[ircea]; Prof. PhD. **Gordan**, C[ornelia]; Prof. PhD. **Pop**, M[ircea], University of Oradea, 1 University Str., 410087, Oradea, RO, petru\_ungur@yahoo.com, petruapop@rdslink.ro, mgordan@uoradea.ro, cgordan@uoradea.ro, popmt@uoradea.ro

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