

# FRICITION AND WEAR

INTERNATIONAL SCIENTIFIC JOURNAL

*Published since January 1980*

Released bimonthly, one volume a year

---

---

GOMEL • MPRI NAS OF BELARUS • 2023, VOLUME 44, N 1

---

---

## CONTENTS

<b>Gutsev D.M., Grigoriev F.A., and Myshkin N.K.</b> Functional Characteristics of Electric Contact Grease .....	5
<b>Devoino O.G., Feldstein E.E., Grigoriev A.Y., Basinyuk V.L., Kardapolova M.A., and Kosyakova I.M.</b> Tribotechnical Characteristics of Coatings Based on Bronze БРА7Н6Ф after Melting by Fiber Laser.....	12
<b>Lyadov A.S., Oganeseva E.Yu., Kochubeev A.A., and Parenago O.P.</b> New Type of Antiwear Additives Based on Quaternary Ammonium Salts of Dialkyldithiocarbamic Acids for Silicone Lubricants .....	20
<b>Osenin Yu.I., Krivosheya D.S., Osenin Yu.Yu., and Chesnokov A.V.</b> Disc Brake Design with Carbon Friction Material.....	26
<b>Shalygin M.G. and Vashchishina A.P.</b> Mathematical Modeling of the Wear Rate of a Friction Pair Locomotive Wheel Rail.....	34
<b>Shpenev A.G. and Bukovskiy P.O.</b> Influence of the Fiber Bedding Direction on the Fiber Composite Wear .....	41
<b>Sidorov A.D., Burakov V.A., Zorin V.D., D'yachkovskiy A.S., and Stepanov E.Yu.</b> Refinement of Projectile Friction Parameters in a Smooth Bore .....	51
<b>Chernyshov S.L., Kolesnikov V.I., Vereskun V.D., Kolesnikov I.V., Manturov D.S., and Ozyabkin A.L.</b> Elastic-Dissipative Properties of Heavy-Loaded Modified Friction Pairs .....	58
<b>Elagina O.Yu., Buklakov A.G., and Dumansky S.I.</b> Tribotechnical Characteristics of Lubricant under High Temperatures .....	68
<b>Polyakov S.A., Kuksenova L.I., Kuleshova E.M., and Medovshchikov A.V.</b> Evaluation of Dynamic Parameters and Improvement of Wear Resistance of Involute Gears when Using Film-Forming Lubricants.....	76

<b>Pavelko G.F.</b> Synergism and Antagonism of Anti-Wear Additives as a Method of Confirming the Mechanism of Their Action.....	85
<b>Kopchenkov V.G.</b> Theoretical Substantiation of the Initiation and Direction of Crack Development under Impact Loading of the Elastomer Surface by Solid Particles .....	93