

EUROMECH
FINAL REPORT

EUROMECH Colloquium No: 434

Title: Contact Mechanics of Coated Bodies

Dates and location: 21 - 23 May 2002

The Institute for Problems in Mechanics
101 build.1 Prospekt Vernadskogo
119526 Moscow, Russia

Chairperson: V.M.Alexandrov (IPM RAS, Moscow, Russia)

Co-Chairperson: J.J.Kalker (TU Delft, Delft, The Netherlands)

Is there need of another Colloquium on the same or a related subject?
Which year?

Yes, in 2005

Full registration fee: 200 EURO

What other funding was obtained? grant from Russian Foundation for Basic Research

What were the participants offered?

The colloquium materials, banquet, dinners, coffe breaks, cultural program, transportation from and to airport.

Number of members of EUROMECH (reduced registration fee):

Number of non-members of EUROMECH (full registration fee):

Number of participants from each country:

Austria	0
Belgium	0
Germany	1
Romania	0
Great Britain	1
Russia	18
Byelorussia	2
Greece	0
Slovakia	0
Bosnia	0
Hungary	0
Slovenia	0
Bulgaria	0
Ireland	0
Spain	1
Croatia	0
Italy	1
Sweden	0
Czech Republic	0
Latvia	0
Switzerland	0
Denmark	0
Lithuania	0
Ukraine	1
Estonia	0
Netherlands	1
Yugoslavia	0
Finland	0
Norway	0
Turkey	0
France	6
Poland	0
Georgia	0
Portugal	0
USA	2
Australia	1

Dear Prof. Alexandrov

Thank you very much for
the scientific report on the
Colloquium 433 you have
organized. On the behalf
of the EUROTECH Council
I thank you and your
colleagues for the effort
you have exerted during

the preparation and running the Colloquium.

With best wishes

Total: 35 = 18 from Russia + 14 from the West + 3 from former Soviet Union countries.

List of participants:

- | | | |
|-----------------------|-----------------|-----------------|
| 1. Johnson K.L. | UK | |
| 2. Lubrecht A.A. | The Netherlands | |
| 3. Raous M. | France | EUROMECH member |
| 4. Bayada G. | France | |
| 5. Chambat M. | France | |
| 6. Dubourg M-C. | France | |
| 7. Renault C. | France | |
| 8. Sainsot Ph. | France | |
| 9. Bragallini G.M. | Italy | |
| 10. Gonzalez J.A. | Spain | |
| 11. Kudish I.I. | USA | |
| 12. Borodich F.M. | USA | |
| 13. Galybin A.N. | Australia | |
| 14. Pozharskij D.A. | Germany | |
| 15. Popov G.Ya. | Ukraine | |
| 16. Myshkin N.K. | Byelorussia | |
| 17. Kovalev A. | Byelorussia | |
| 18. Glushkov E.V. | Russia | |
| 19. Manzhurov A.V. | Russia | EUROMECH member |
| 20. Voronin N.A. | Russia | |
| 21. Gorshkov A.G. | Russia | |
| 22. Aizikovich S.M. | Russia | |
| 23. Manevich L.I. | Russia | |
| 24. Goryacheva I.G. | Russia | EUROMECH member |
| 25. Alexandrov V.M. | Russia | |
| 26. Grishin S.A. | Russia | |
| 27. Argatov I.I. | Russia | |
| 28. Chebakov M.I. | Russia | |
| 29. Dmitriev N. | Russia | |
| 30. Soldatenkov I.A. | Russia | |
| 31. Torskaja E.V. | Russia | |
| 32. Krichevtsova S.V. | Russia | |
| 33. Korneev R. | Russia | |
| 34. Klindukhov V.V. | Russia | |
| 35. Margaryan S.A. | Russia | |

Scientific Report

EUROMECH Colloquium 434

Contact Mechanics of Coated Bodies

Chairpersons: J.J.Klaker (TU Delft, Delft, The Netherlands),
V.M.Alexandrov (IPM RAS, Moscow, Russia)

EUROMECH Colloquium 434 took place between 21-th and 23-th May 2002 at the Institute for Problems in Mechanics of Russian Academy of Sciences, Moscow, Russia. The colloquium was also sponsored by the Russian Foundation for Basic Research. At first 73 communications from over the world submitted to the Organizing Committee were chosen to be presented at the colloquium. Finally 35 participants from European Community, Russia, United States, Great Britain, Australia and countries of the Former Soviet Union came to Moscow. The meeting had informal character, with open discussions and exchange of ideas between researchers.

The scope of the colloquium was to review current advances in study of

contact interaction, friction and fracture of bodies with coatings. The coated bodies are widely used in tribosystems to decrease the energy losses and to increase the wear resistance. The different technologies used for

coating implantation produce the coatings with various mechanical and geometrical characteristics and different conditions at the interface. Stress field, temperature distribution and fracture of coated bodies depend essentially on coating properties.

The topics of the colloquium lectures were:

- * - rolling/sliding contact of bodies coated by elastic, viscoelastic or plastic layers;
- * - lubricant contact of coated bodies;
- * - effect of roughness in contact of coated bodies;
- * - contact interaction of bodies covered by inhomogeneous coatings and multilayers;
- * - wear contact problems for coated bodies;
- * - fracture of coated bodies;
- * - experimental study of contact, friction and fracture of coated bodies.

Both aspects, theoretical and experimental, were presented.

In addition to recent achievements in the field and current research activities discussed at the colloquium, the memorial lecture was given by Professor Irina Goryacheva at the colloquium opening. The lecture was devoted to the life and scientific contribution of Lev Alexandrovich Galin - one of the pioneers in Contact Mechanics, who worked at the Institute for Problems in Mechanics in 1939 - 1981 and whose 90-th anniversary is celebrated this year.

The cultural program of the colloquium included the skimming with the town historical and architectural showplaces, visits to the Bolshoi Theatre and to the Tretyakov Gallery art museum. The banquet, dinners, coffee breaks and poster sessions helped participants to exchange their opinions informally and fruitfully.

V.M.Alexandrov