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Experimental Measurements  
for  
Surface Effects and  
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## Preface

This book contains most of the papers presented at the Eighth International Conference on Surface Treatment and Contact Mechanics held in 2007 at the Wessex Institute of Technology in Ashurst, UK. Previous conferences in the same series were organized in Southampton(1993), Milano(1995), Oxford(1997), Assisi (1999), Sevilla (2001), Crete (2003) and Bologna (2005). This series of conferences is aimed at encouraging international collaboration among the participants and the exchange of new ideas. In particular the book deals with the interplay between applied physics, materials science, computational mechanics and mechanical engineering.

The combination surface treatment and contact mechanics is an important one. The surface of a component is usually the most important engineering factor. While it is in use it is often the surface of a work-piece that is subjected to wear and corrosion. The complexity of the tribological properties of materials and the economic aspects of friction and wear justify an increasing research effort. To an increasing degree, therefore, the search is on for surface modification techniques, which can increase the wear resistance of materials. It is worth noting here that wear resistance is a property, not of materials but of systems, since the material of the work-piece always wears against some other medium. It is its relation to its environment – e.g. lubrication, speed of sliding or rotation - that determines the wear resistance of the material in a given construction. In this book various new developments are highlighted, both from an experimental and computational viewpoint. Special emphasis is given to the application of advanced theoretical and experimental approaches.

Thanks are due to the authors for their contributions. The editors are also grateful to the members of the International Scientific Advisory Committee, who helped in the reviewing process to ensure the quality of the conference and this book.

The Editors,  
Ashurst, UK  
2007.



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