



Chair for Theory and Computer-Aided Design of Mechanisms and Machines

PROPOSALS FOR COOPERATION

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The areas of research:



- theoretical basis of computer simulation of processes in complex mechanical systems;
- theoretical basis of analysis and synthesis of machine and mechanism elements;
- development of specialized program and models systems for research of most loaded elements of machines;
- researching of complex biomechanical systems (segments of the human spine with endoprosthesis, the modeling cervical orthoses, the modeling of prosthetic joint operations with the use of metal-ceramic prostheses);
- calculation of gears and methods of geometrical synthesis of complex gearing;
- simulation of mechanical and electrochemical processes of material degradation;
- simulation of reactions on different static, dynamic and impulse excitation on elements of special purpose vehicles;



The areas of research:



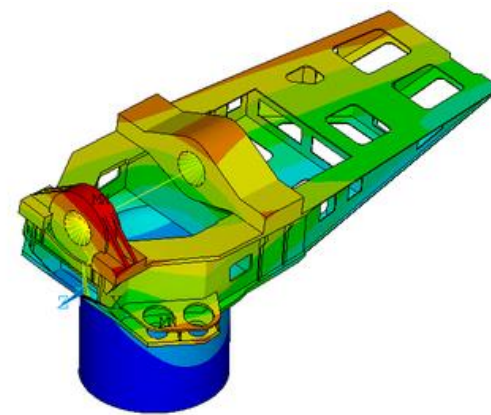
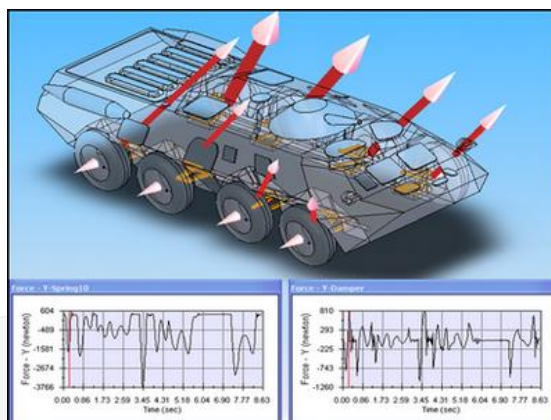
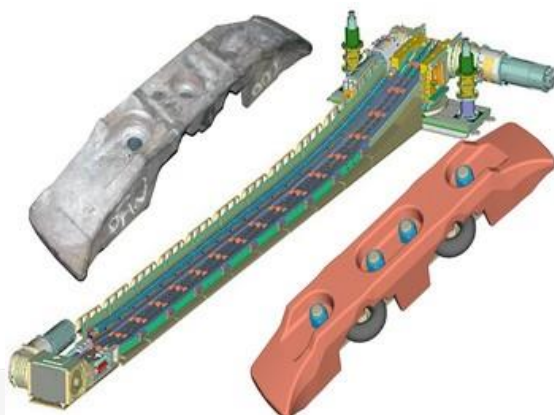
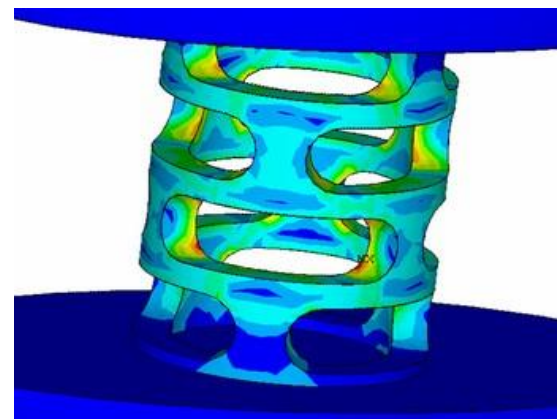
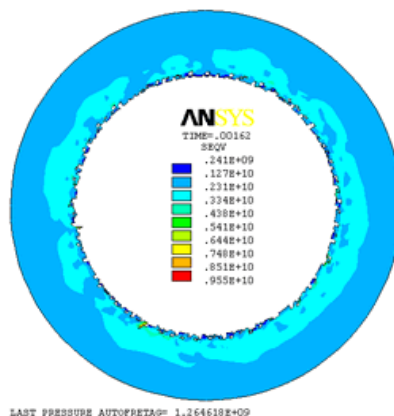
- simulation and research of dynamics of machine building constructions and elements of equipment;
- analysis and synthesis of overhead cranes;
- theoretical basis of cluster computers technologies for processes simulation;
- solution of applied tasks for industrial and consulting companies.

Detailed information about projects is presented on web-site

<http://web.kpi.kharkov.ua/tmm-sapr/en/>

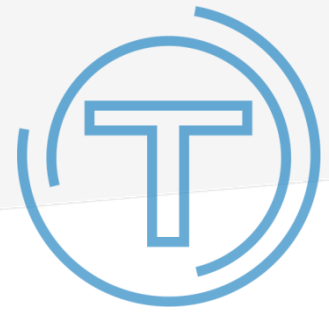


The areas of research:





The research tools



- CAD systems:

- SolidWorks
- Autodesk Inventor
- PTC Creo

- CAE systems:

- ANSYS
- FEMAP
- Autodesk Simulation

- Theoretical and experimental methods for researching of complex mechanical constructions