

COLLABORATIVE RESEARCH CENTER 837

INTERACTION MODELING IN MECHANIZED TUNNELING

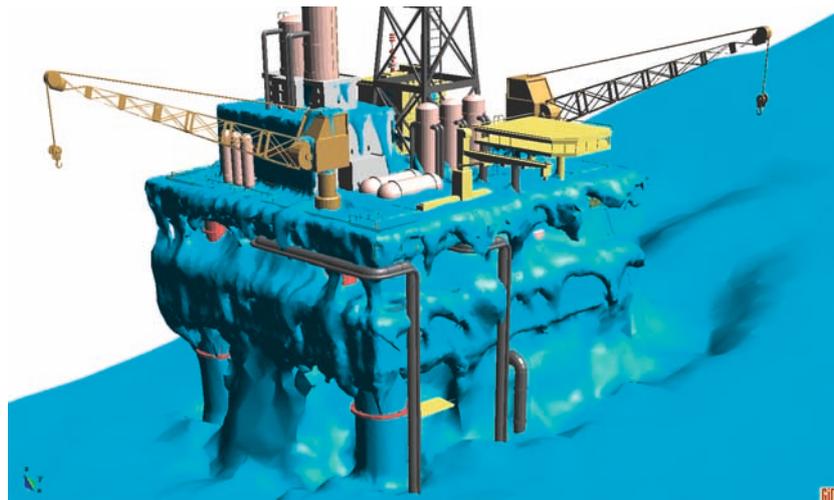
RUB

Towards a High Performance and Robust Multi-Physics Framework

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The multi-physics problems, specially the Fluid Structure Interaction (FSI), are complex by nature. Even more dealing with these problems usually involves several practical difficulties such as large scale analysis and dirty model handling. The floating platforms in deep seas are good examples of this kind of problems. So the high



performance computing and robustness become the essential requirement for a framework in this area. This leads developers from one side to develop more robust solutions and on the other side to use resources like big multi-core machines, clusters and GPUs.

Kratos Multi-Physics is developed to be a framework for coupled problem analysis. Kratos is prepared for multi-core and cluster machines and even GPUs for certain analysis.

In this presentation first a brief description of solutions and methods used in Kratos in order to support multi-core machines, clusters and GPUs will be given. This will be continued with undergoing lines of developments for increasing its robustness and performance.

Guests are sincerely welcome!