



Accurate · Fast · Robust · Versatile

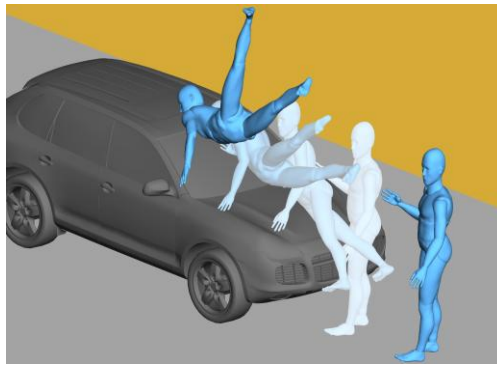
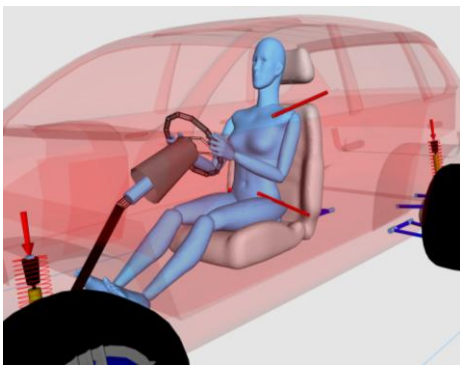
SIMPACK Biomotion

Application

SIMPACK Biomotion

SIMPACK Biomotion add-on-modules enable the easy implementation and simulation of the human interactions within SIMPACK models.

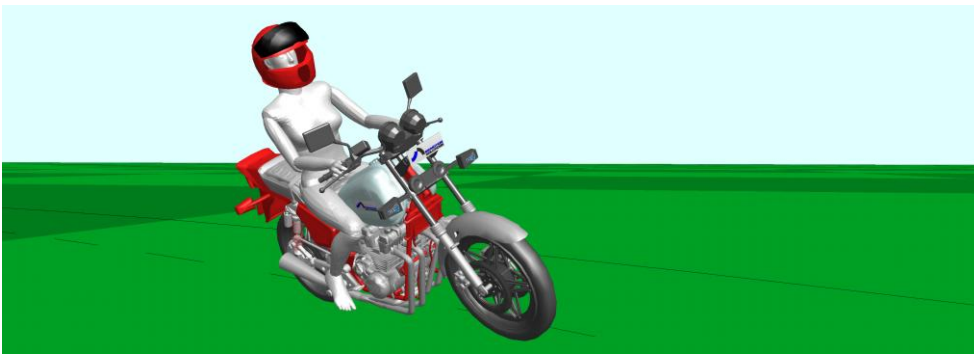
Biomotion Elements



- Spinal disc model
- Passive muscles and tendons
- Biomechanical contacts
- Actuator and pose control
- Wobbling mass model (soft tissue)

Biomechanical elements which enable the integration of human body models to SIMPACK MBS simulation

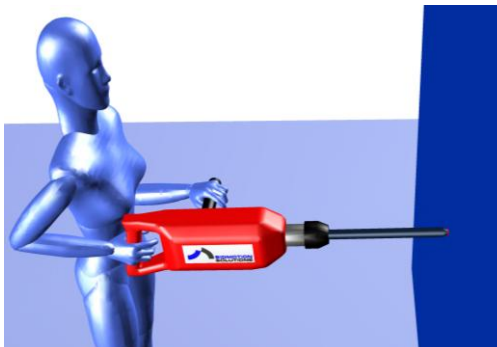
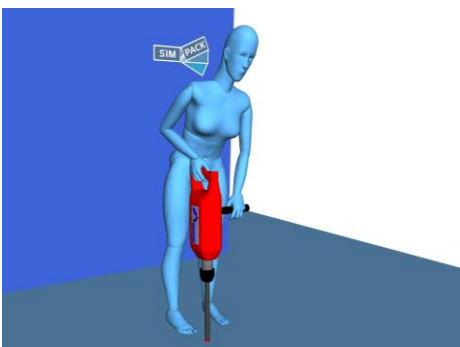
Motorcycle Rider



- Realistic steering by hand-arm movements
- Uses SIMPACK Automotive Track and Preview Sensor
- Low-pass feedback filter
- Set value for speed control
- Adaptable controller for convenient modeling

Controller: biomechanical rider for motorcycle simulation

Hand-Arm-System (HAS) for Powertools



- Vibration analysis of the Hand-Arm-System (HAS)
- Hold posture control
- Enables defined tool movement
- Pressing force feedback
- Low-pass feedback filter
- Adaptable controller for convenient modeling

Controller: biomechanical user model for HAS-powertool simulation

What is SIMPACK?

SIMPACK is a general-purpose multi-body simulation (MBS) software tool which is used to aid the development of any mechanical or mechatronic device, ranging from single components through to complete systems (e.g. wind turbines, vehicles, and high performance Formula 1 engines). All SIMPACK products are 100% compatible.

Applications:

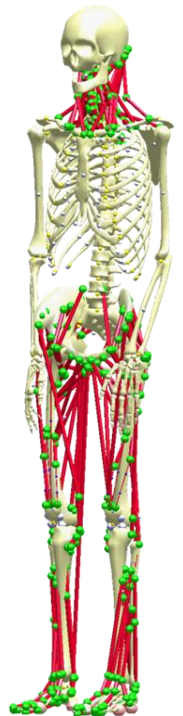
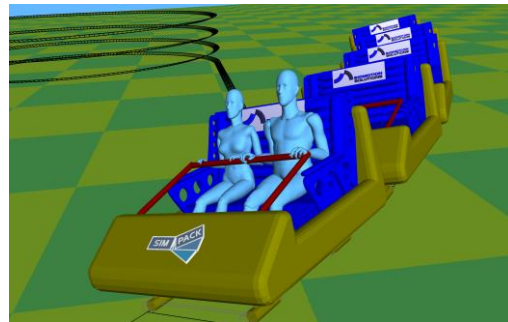
- Ride Comfort (e.g. car, train, trucks, motorcycle)
- Occupant safety (e.g. whiplash)
- Accident simulation
- Ride stability analysis (motorcycle)
- Hand-Arm-Vibration (powertools)
- Motion analysis in sports
- Biomedical simulation
- Aerospace

Highlights:

- Enables detailed human models
- Forward dynamic motion synthesizes enables human in the loop simulation
- Extendable by user defined elements
- Realistic biomechanical man-machine interaction
- No Co-Simulation for MC-Rider and HAS-Pt required (fast and accurate simulation)
- Fully compatible with Biomotion TraXXol and Biomotion Varibody

Operating systems:

- Windows and Linux.
See: www.SIMPACK.com/platforms.html



Developed and maintained by:



See: www.biomotion-solutions.com

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