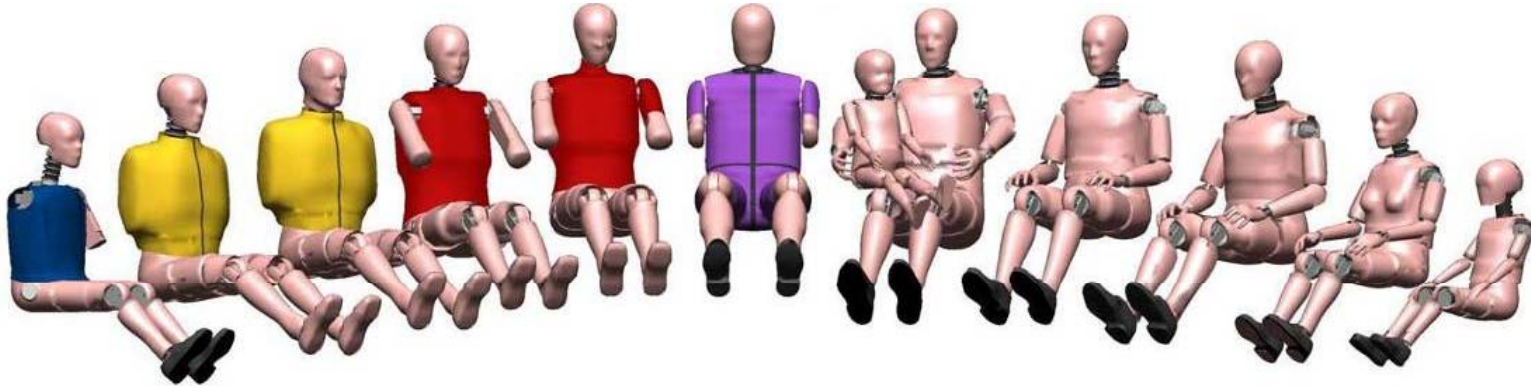


Humanetics Hybrid III 50th Application Example



For more info contact
fe.info.us@humaneticsatd.com

Finite Element Models



Humanetics supplies Finite Element dummy models in the structural codes

LS-DYNA

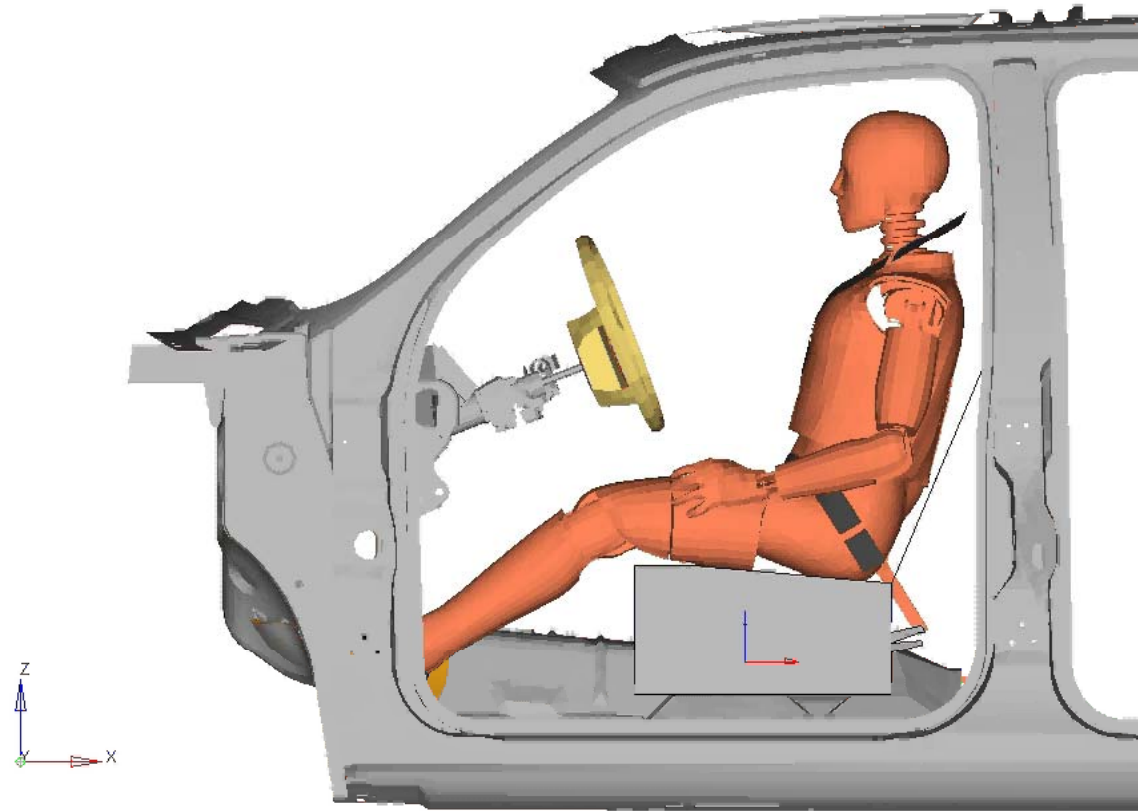
PAM-CRASH

Abaqus

RADIOSS

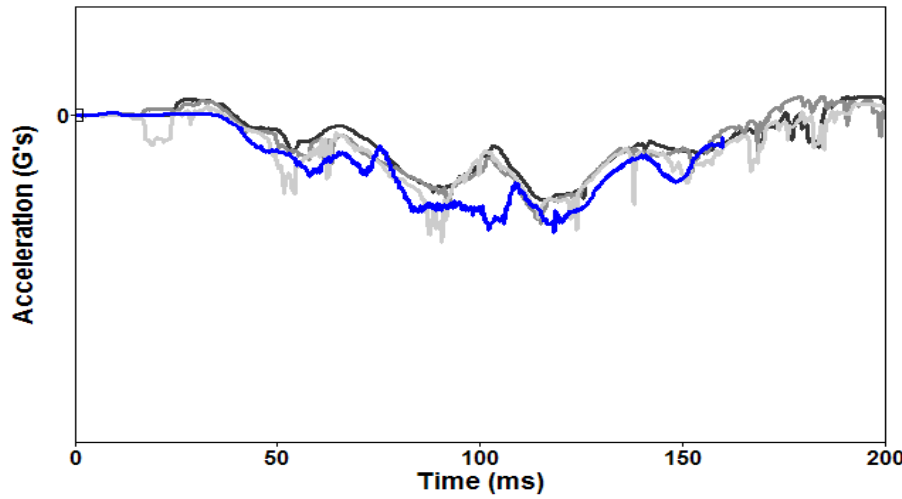
Full System Application Example

- Hybrid III 50th v5.1
- Sled 20mph
- OEM data
- LS-DYNA

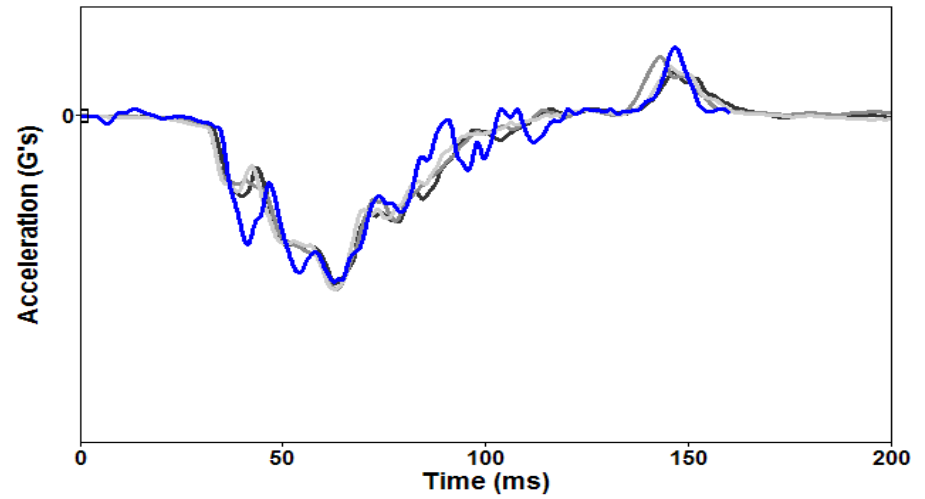


Acceleration

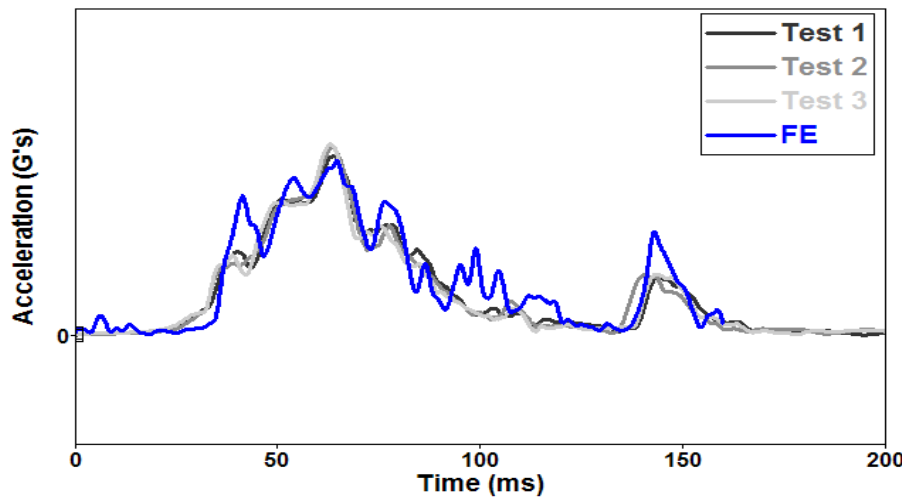
Head Accel-X



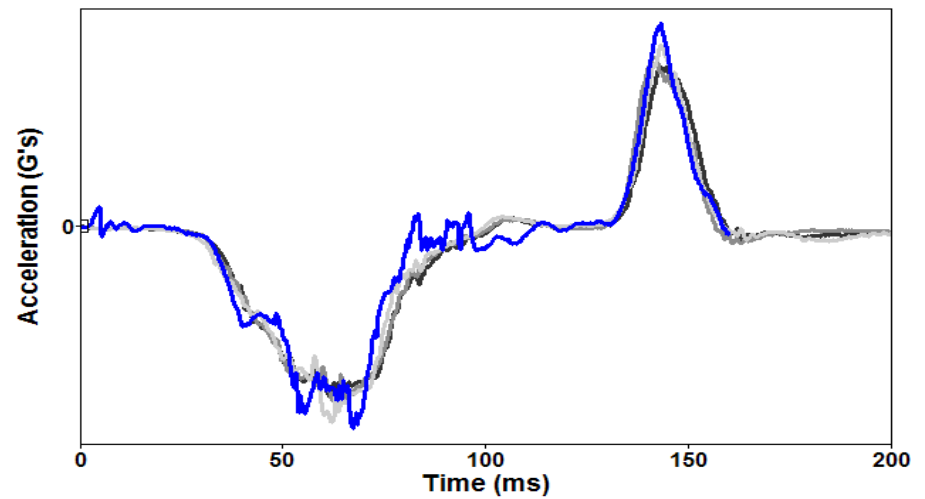
Chest Accel - X



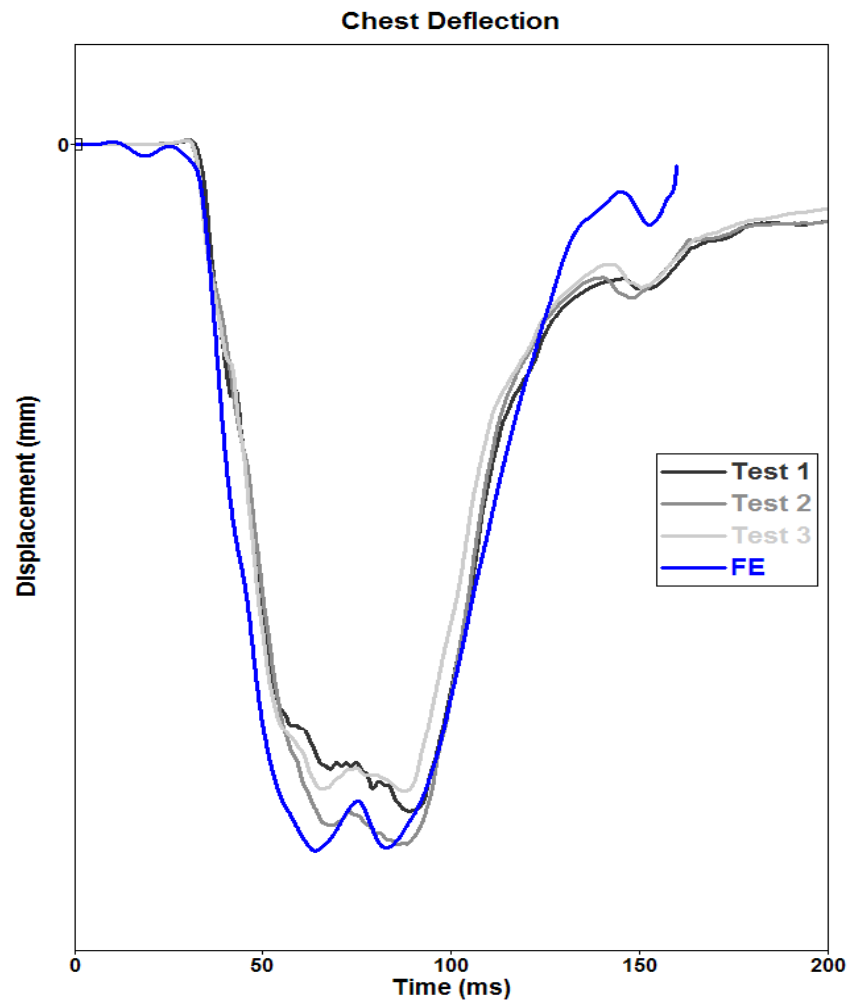
Chest Accel Resultant



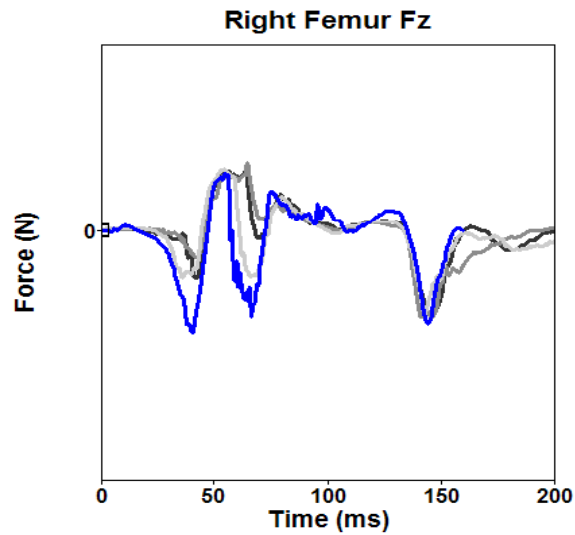
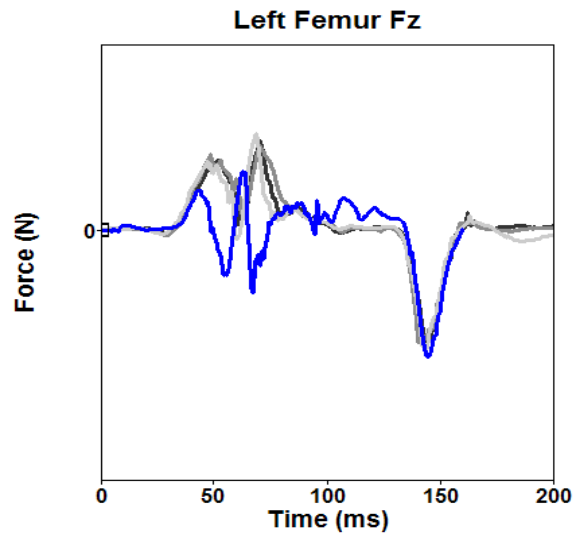
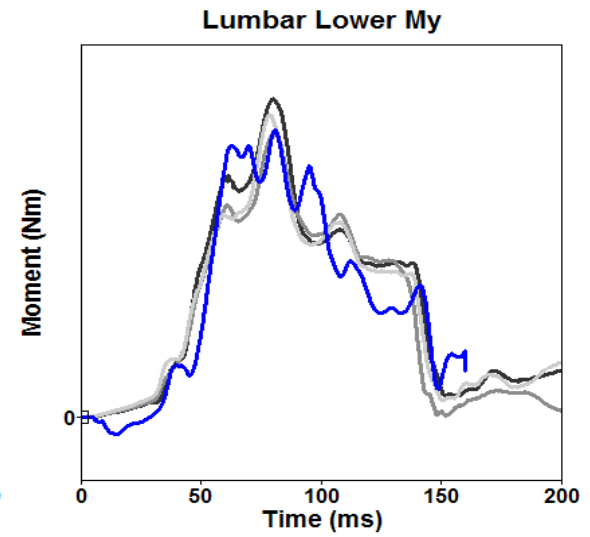
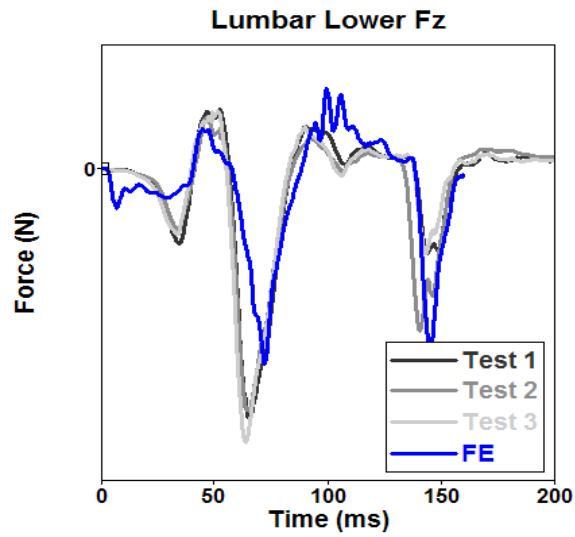
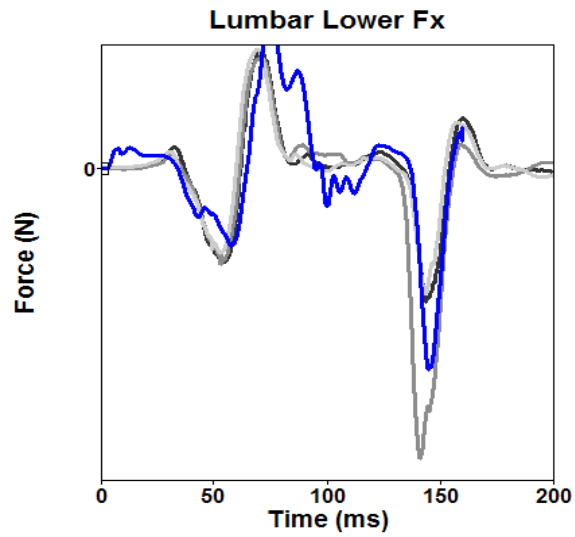
Pelvic Accel-X



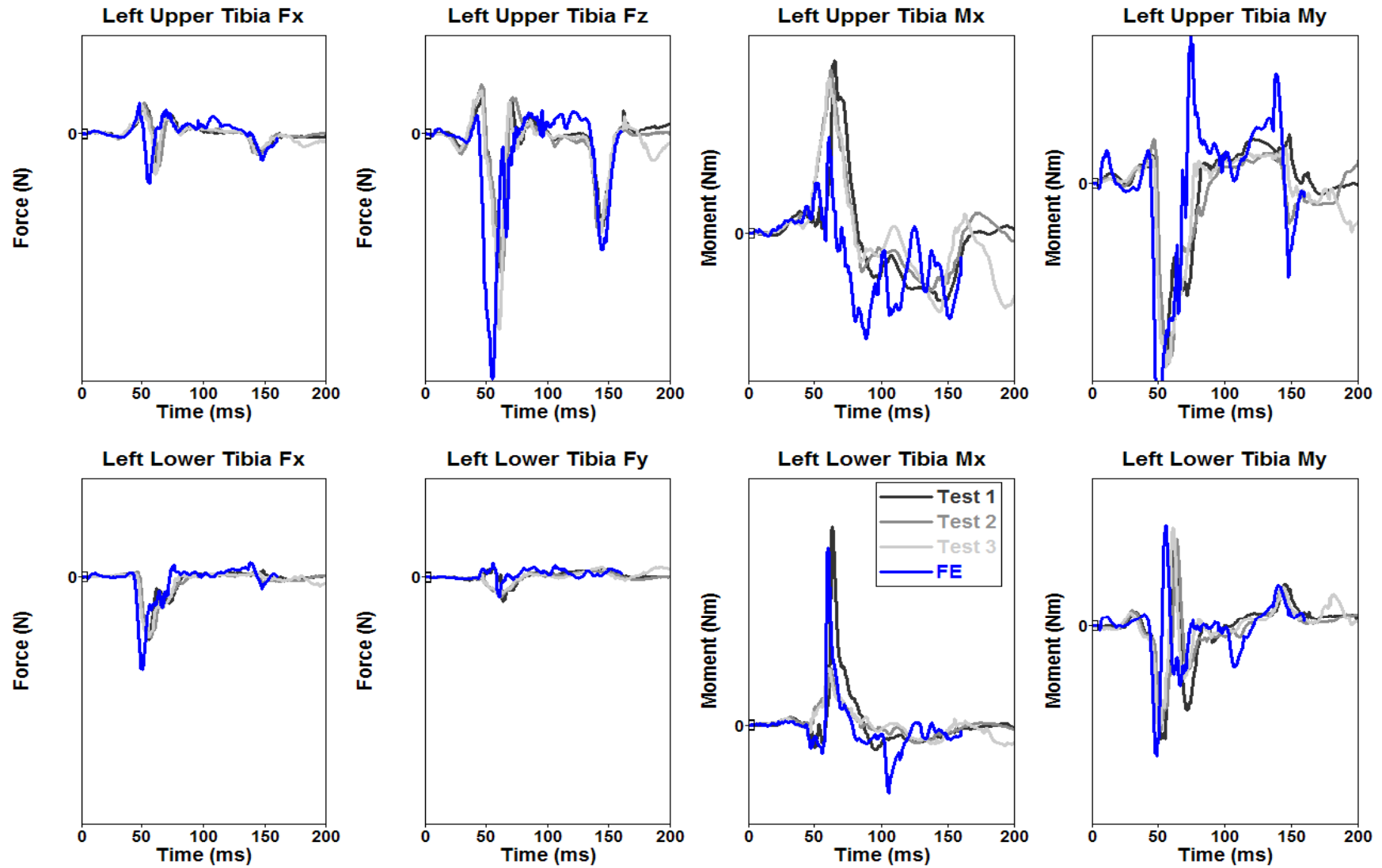
Displacement



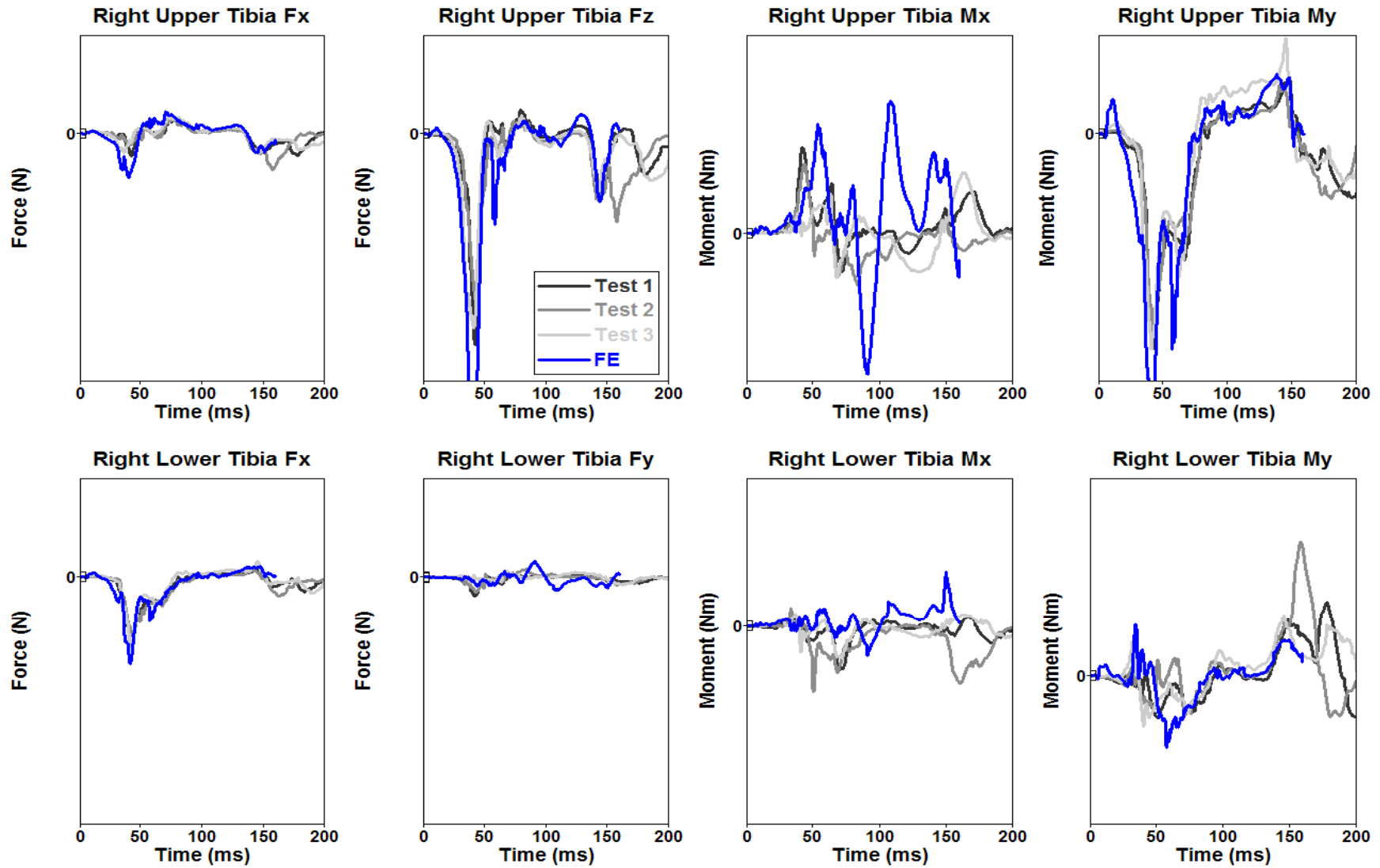
Lumbar & Femur



Left Tibia

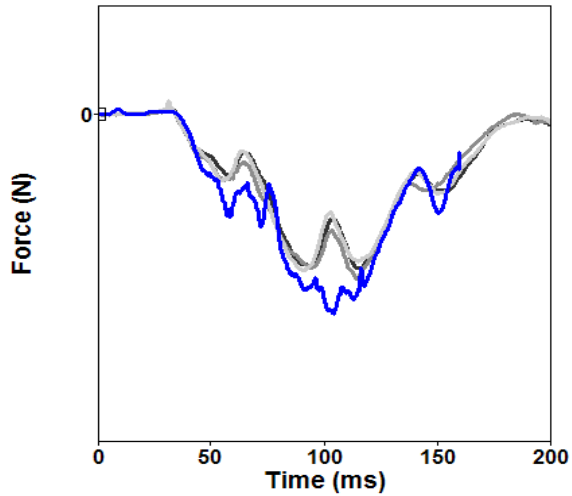


Right Tibia

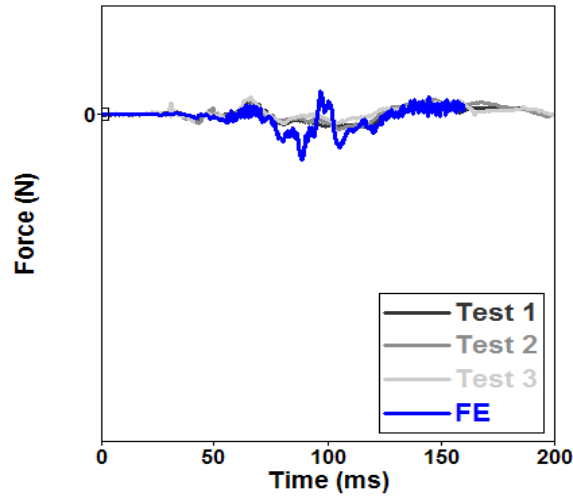


Neck

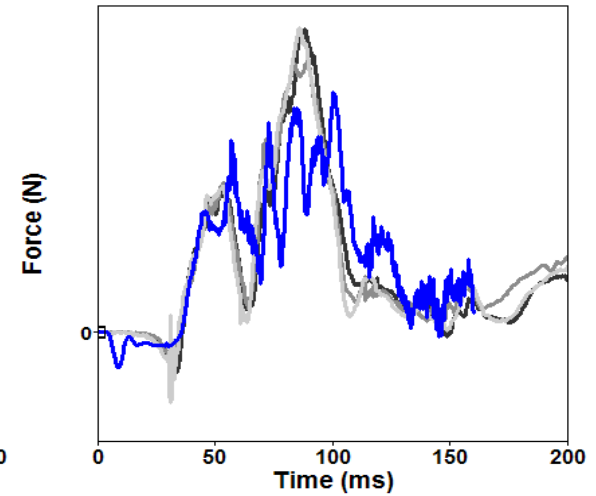
Upper Neck Fx



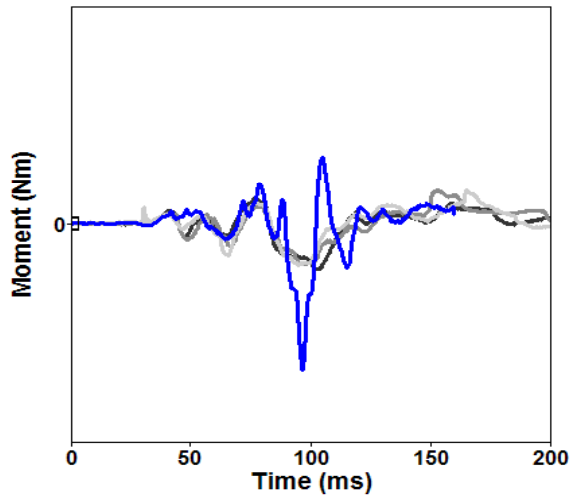
Upper Neck Fy



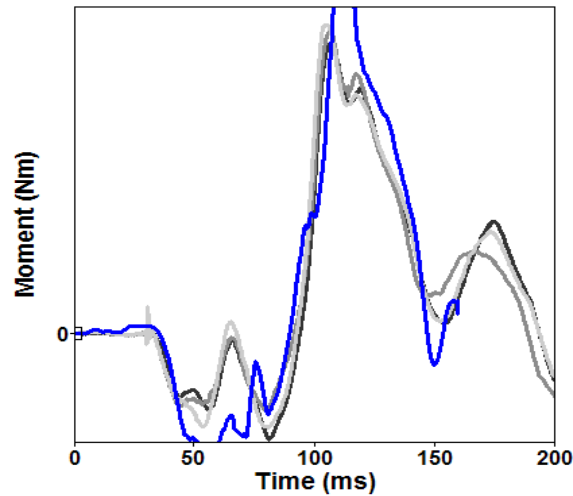
Upper Neck Fz



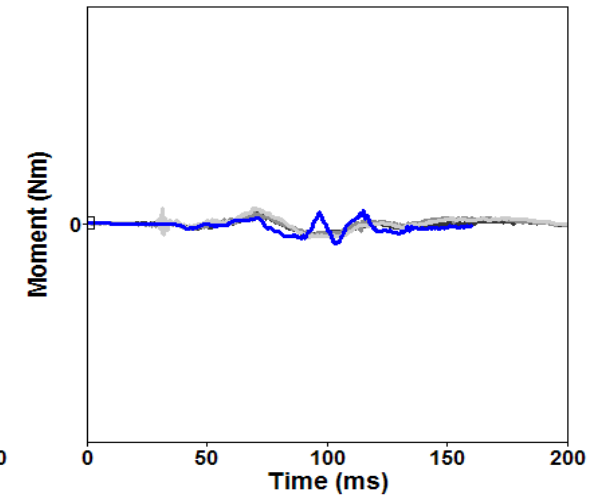
Upper Neck Mx



Upper Neck My

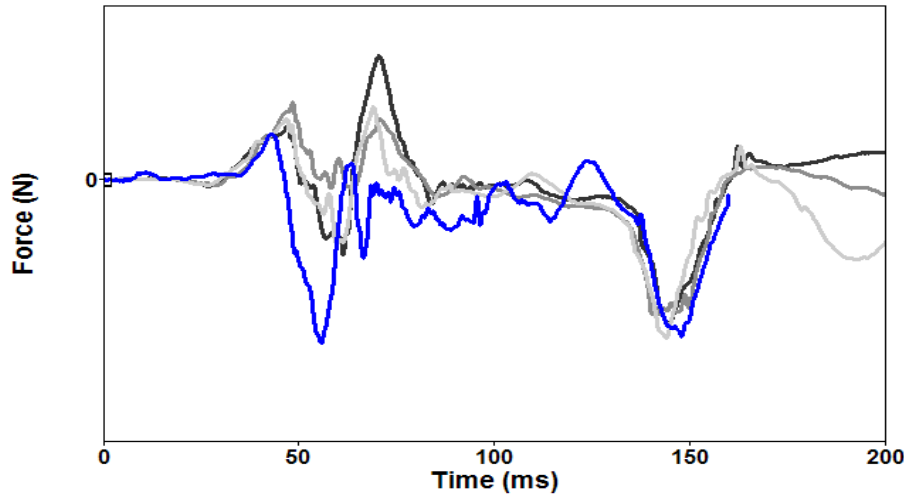


Upper Neck Mz

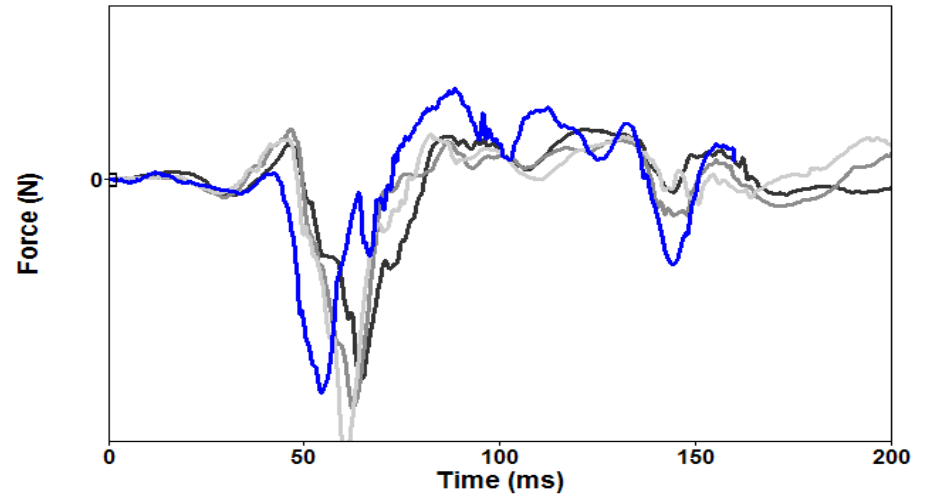


Knee

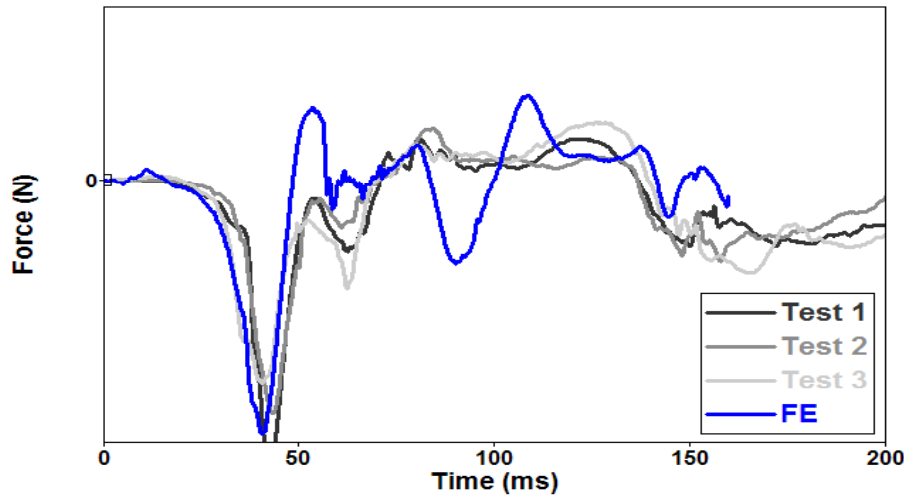
Left Knee Clevis Inside Force



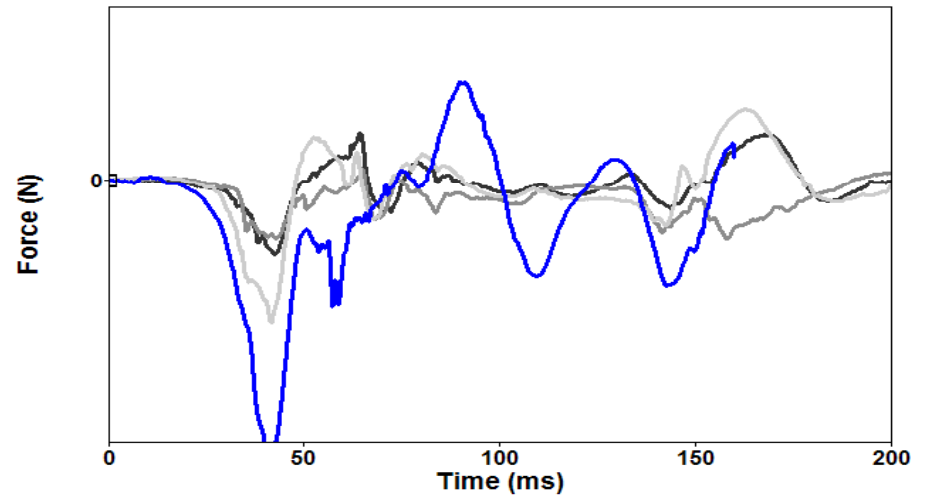
Left Knee Clevis Outside Force



Right Knee Clevis Inside Force

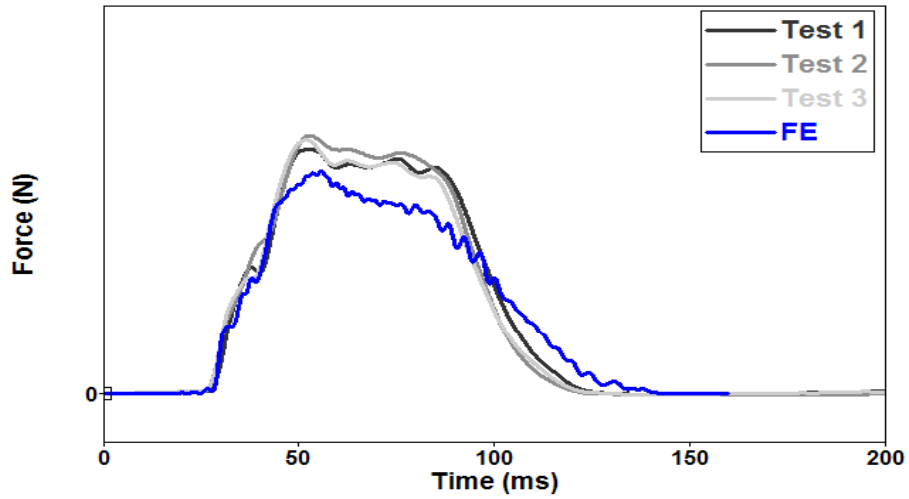


Right Knee Clevis Outside Force

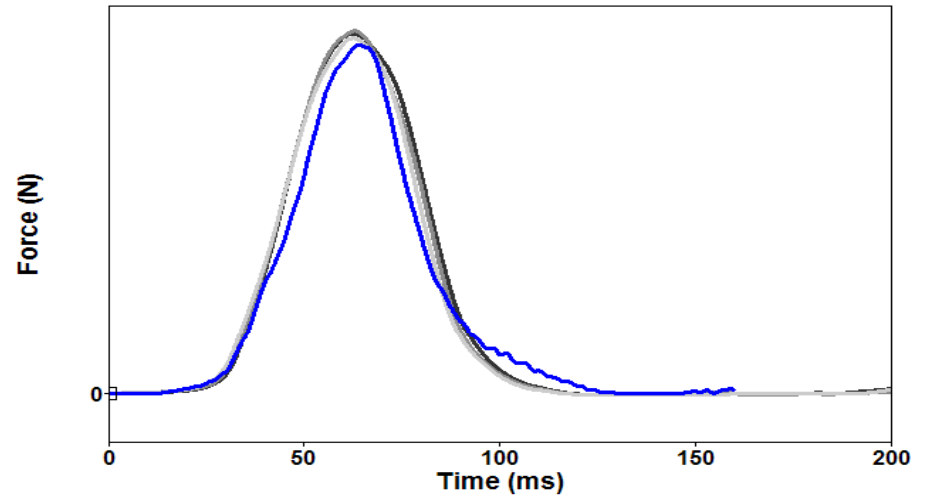


Belt, Sled

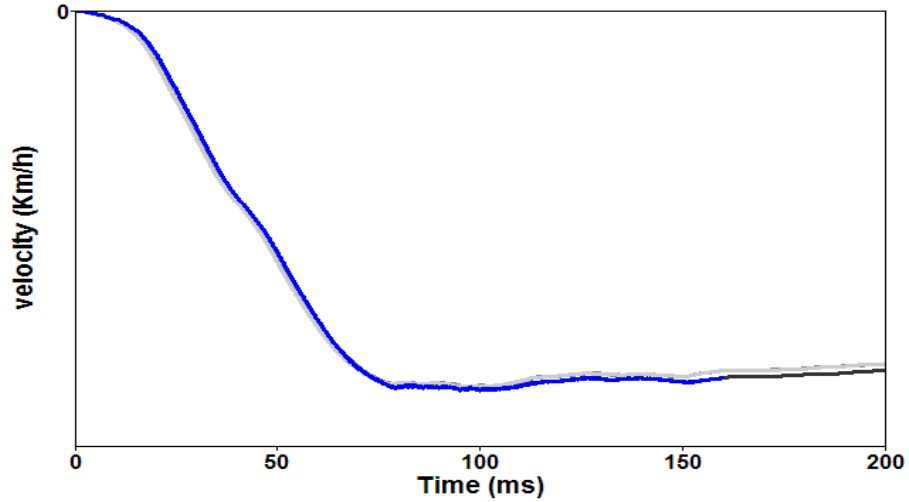
Shoulder Belt Upper Force



Lap Belt Force



Sled Velocity



Conclusion

- ▶ Repeatable tests
- ▶ H350 v5.1 model provides very good correlation on all levels
- ▶ The current release v7.1 has undergone additional validation and shows even better performance
- ▶ Similar results for PAM-CRASH, RADIOSS and Abaqus