

Sensitivity study on the model parameters 1

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Methods

Found 12 parameters we want to test the influence of:

1. Contact:	auto penalty	1 or 0
2. Contact:	laugon	1 or 0
3. Contact:	gaptol	0 or 0.01
5. RCJ:	Moment penalty	10000 or 3000000
6. RCJ:	angtol	0.0001 or 0.01
8. Step:	min_residual	0.001 or 1e-20
9. Step:	etol	0.1 or 0.01
10. Step:	qnmethod	1 or 0
13. ACL prestretch		1, 1.05, 1.1, 1.15

Simulations performed

Prestretch application at 0.2 (only ACL at 1, 1.05, 1.1 and 1.15)

All combinations run = 1024 simulations

Outcome parameters

- AP position
- Convergence time
- Model convergence

Results

Results file: Sensitivity study on model parameters 1.pptx

Conclusion

Model parameters performing best:

Auto penalty = 1

Gaptol = 0

Laugon = 0

RCJ: angtol = 0.0001

RCJ: moment penalty = 3000000

step: etol = No difference 0.1 or 0.001

step: min residual = 0.001

qnmethod = No difference 0 or 1