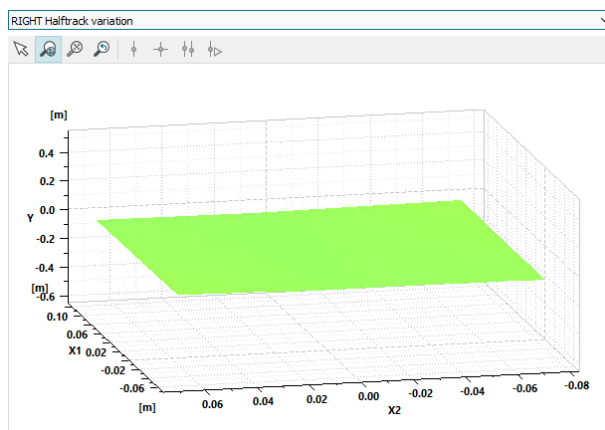
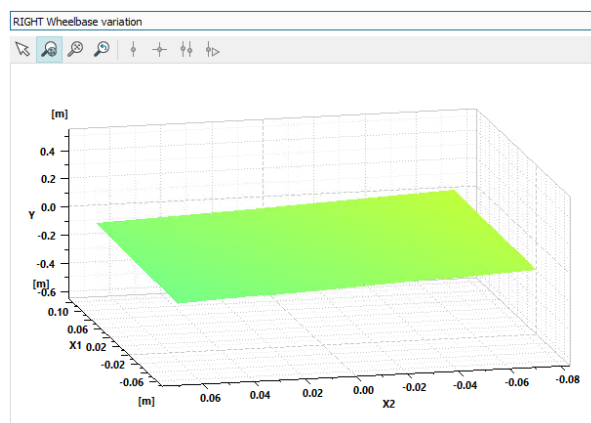
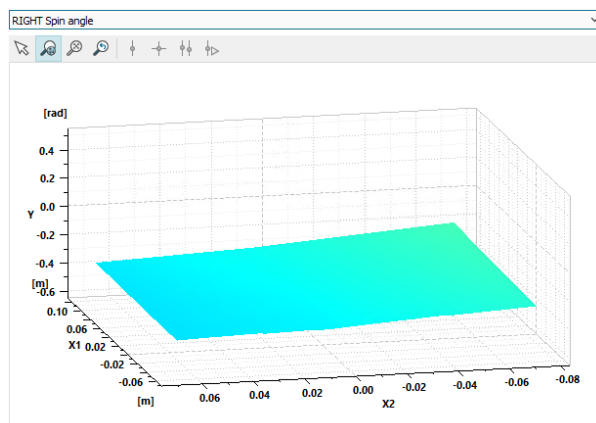
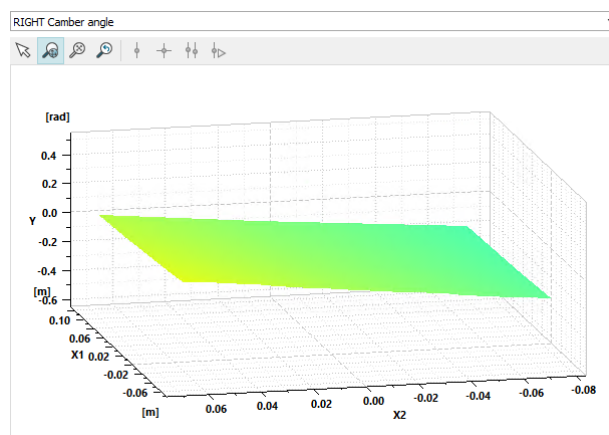
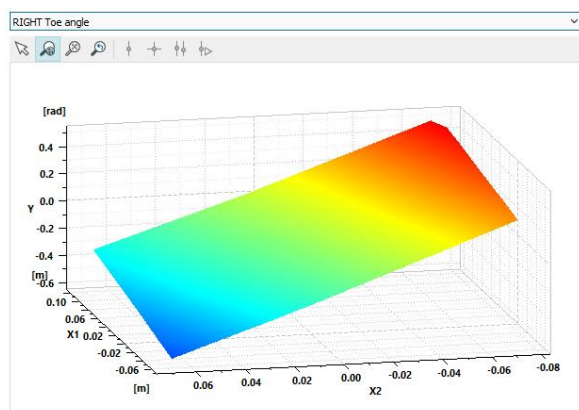
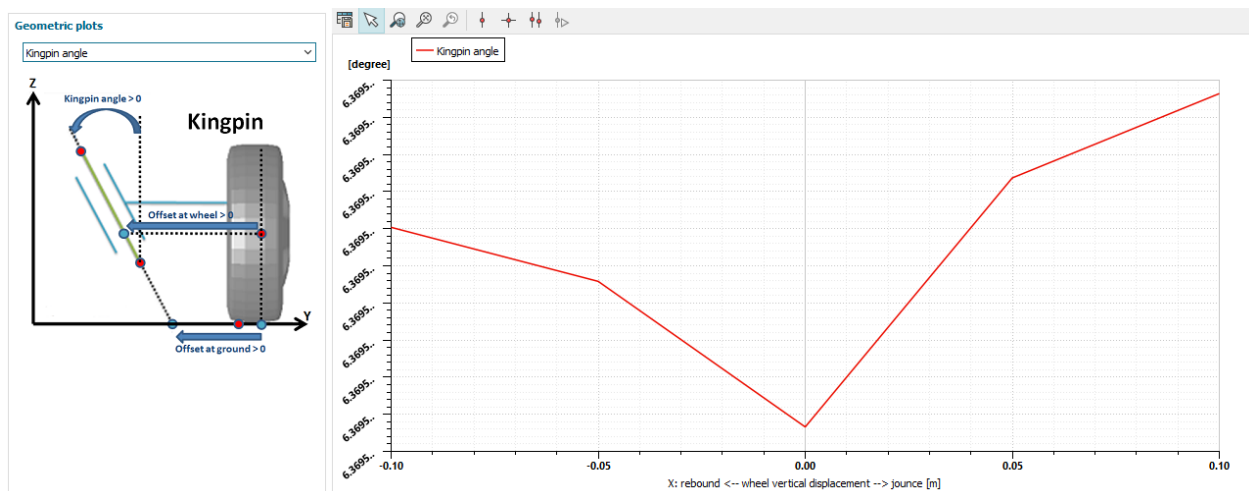
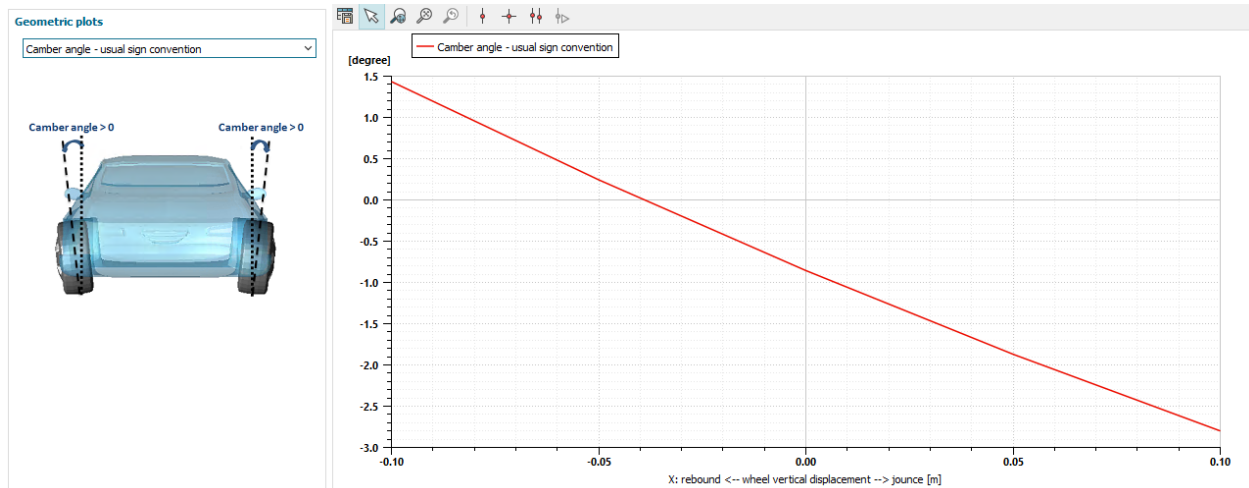
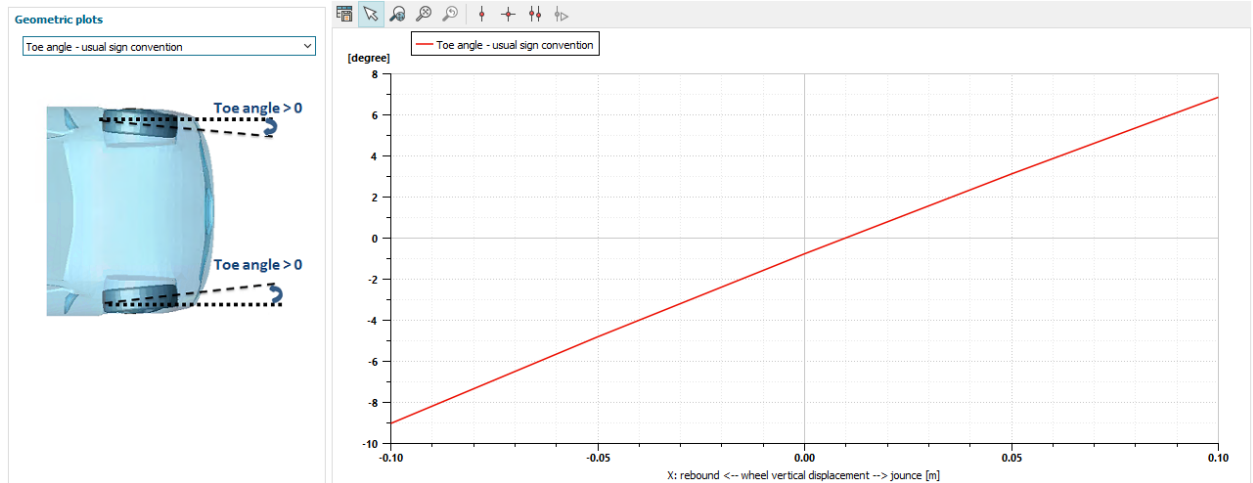


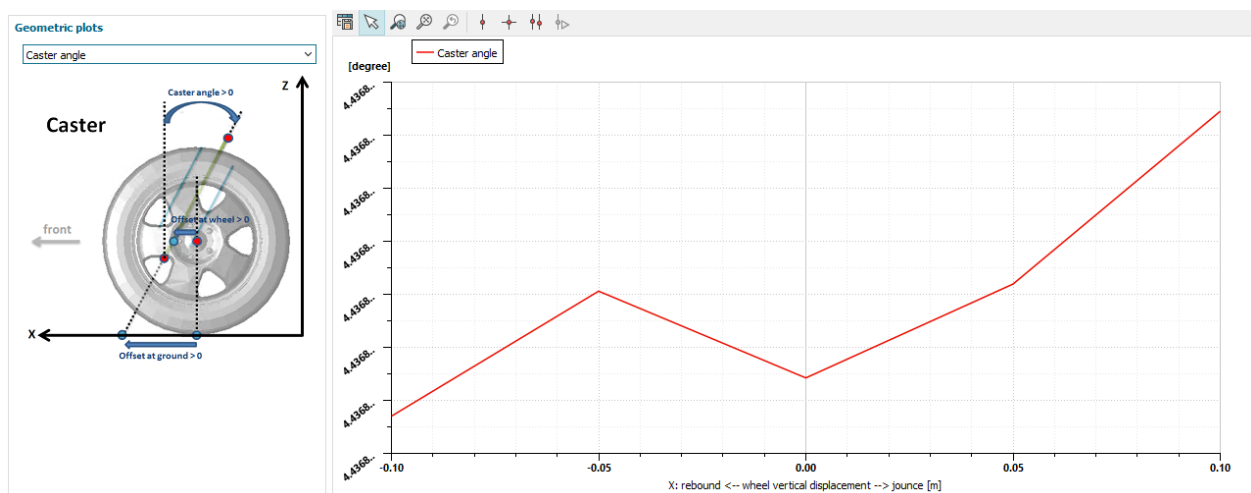
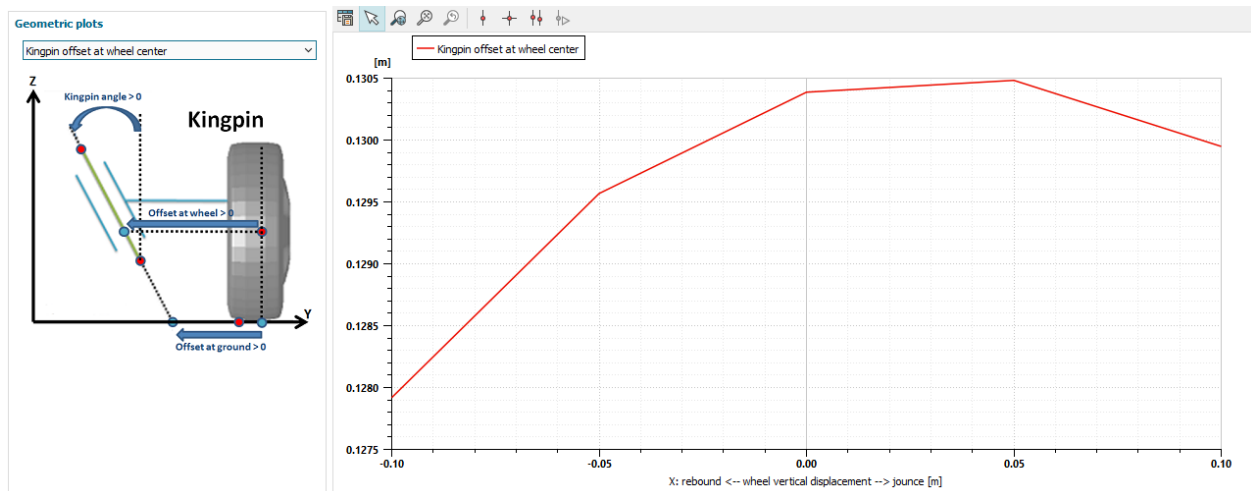
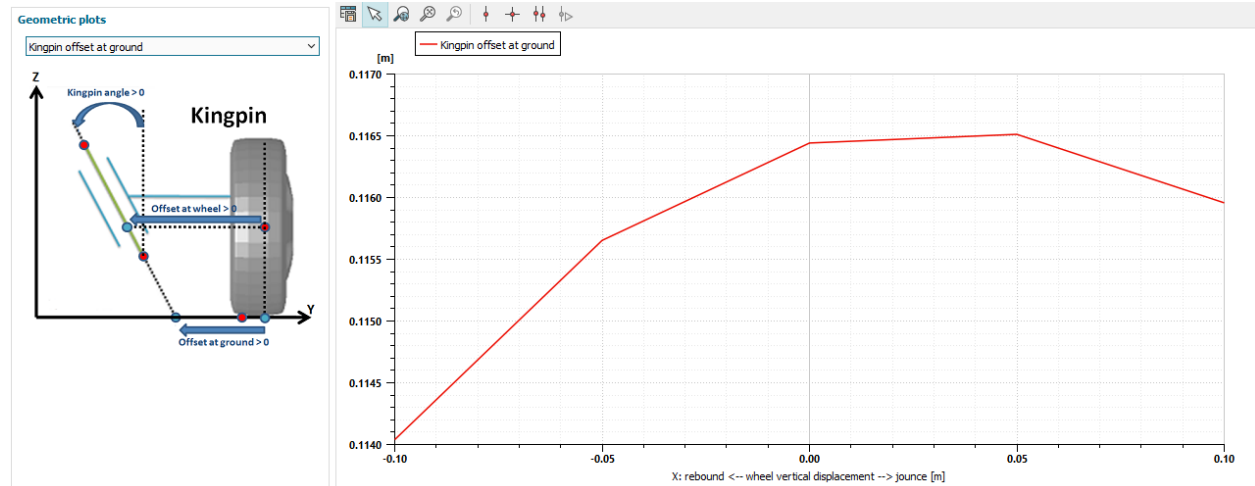
Mellékletek

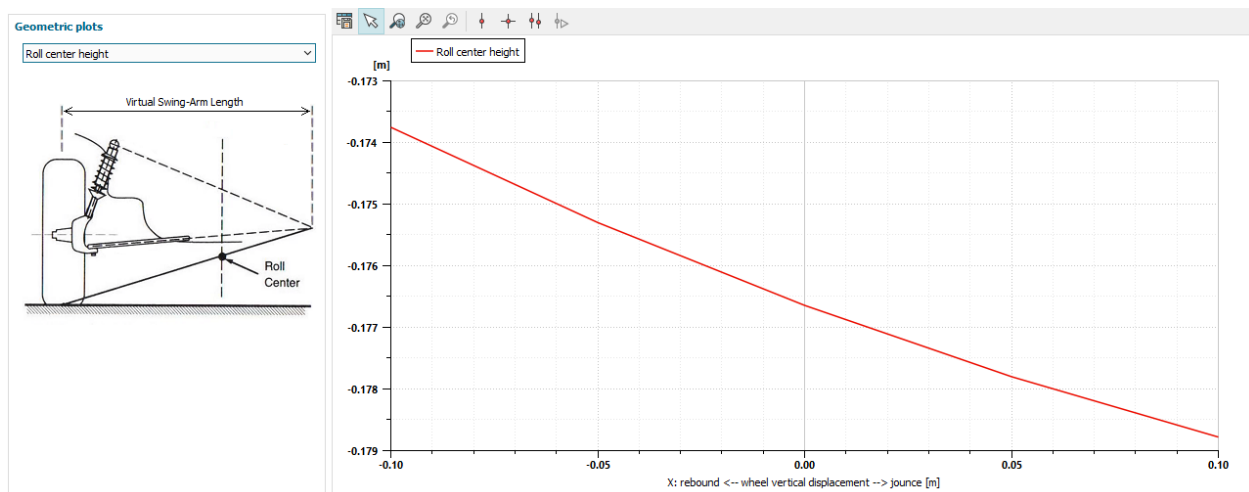
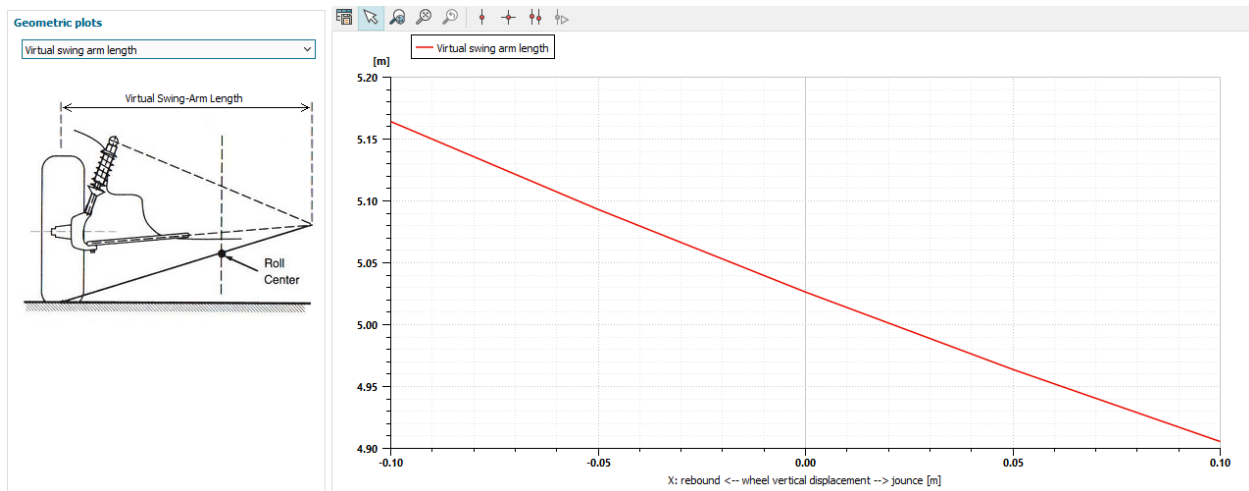
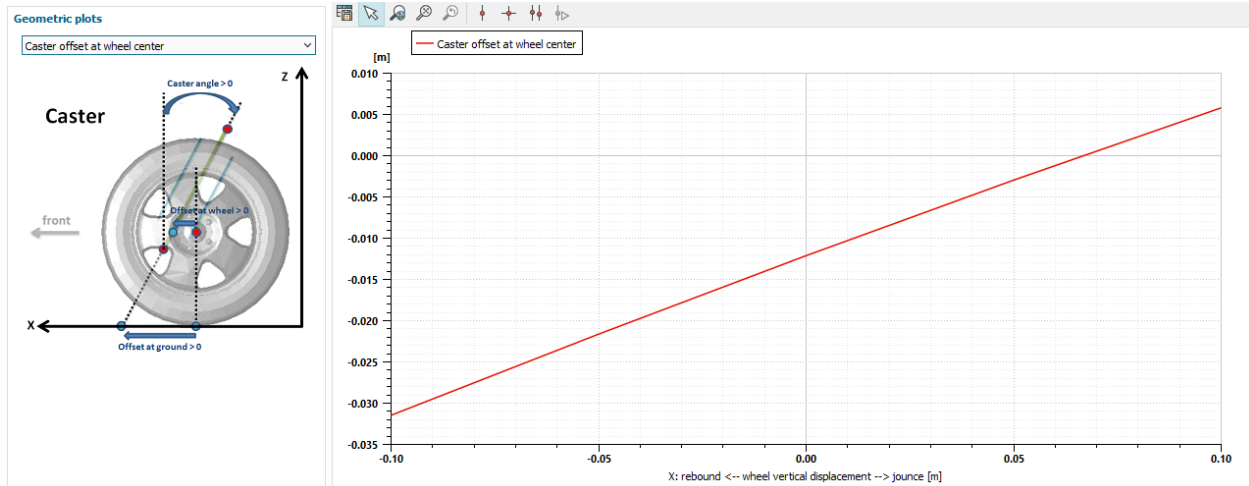
A következőkben a korábbi pontokból kimaradt eredményeket, paramétereket mutatom be.

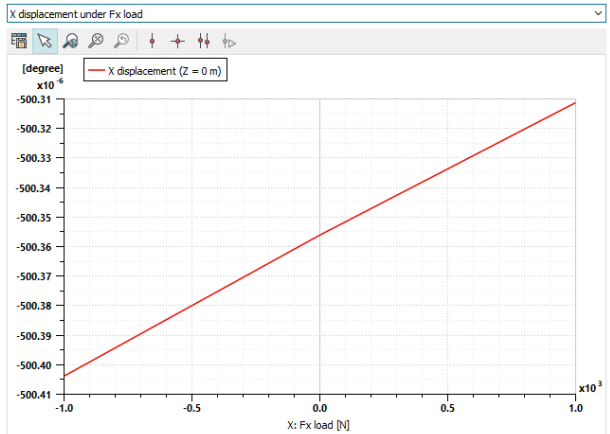
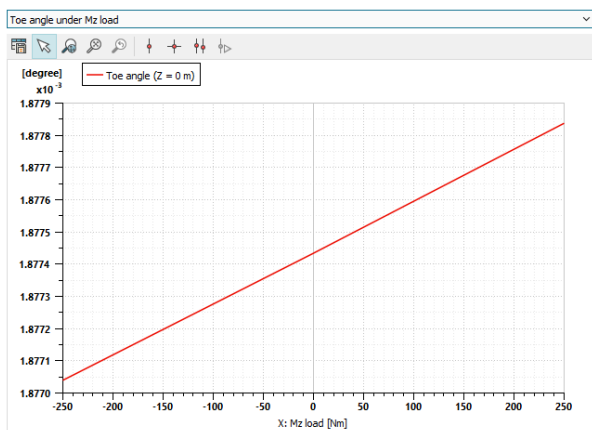
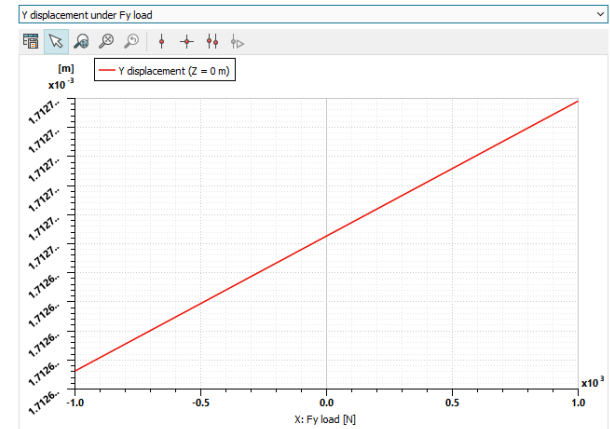
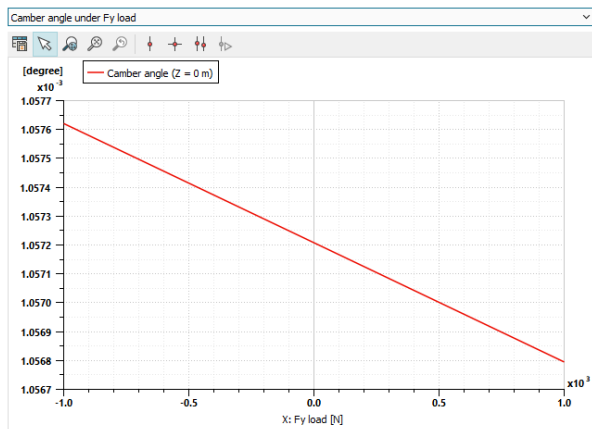
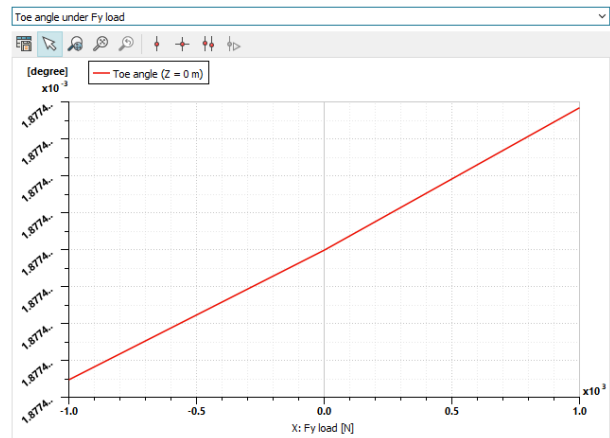
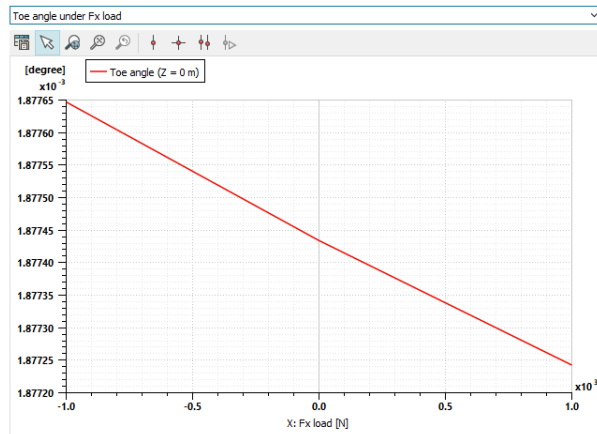
1.Melléklet. A merev első felfüggesztés kimaradt adatai. A vizsgált jellemző (Y) a fejlécben olvasható, a kerék függőleges irányú elmozdulása (X1), a kormányösszekötő elmozdulása (X2)



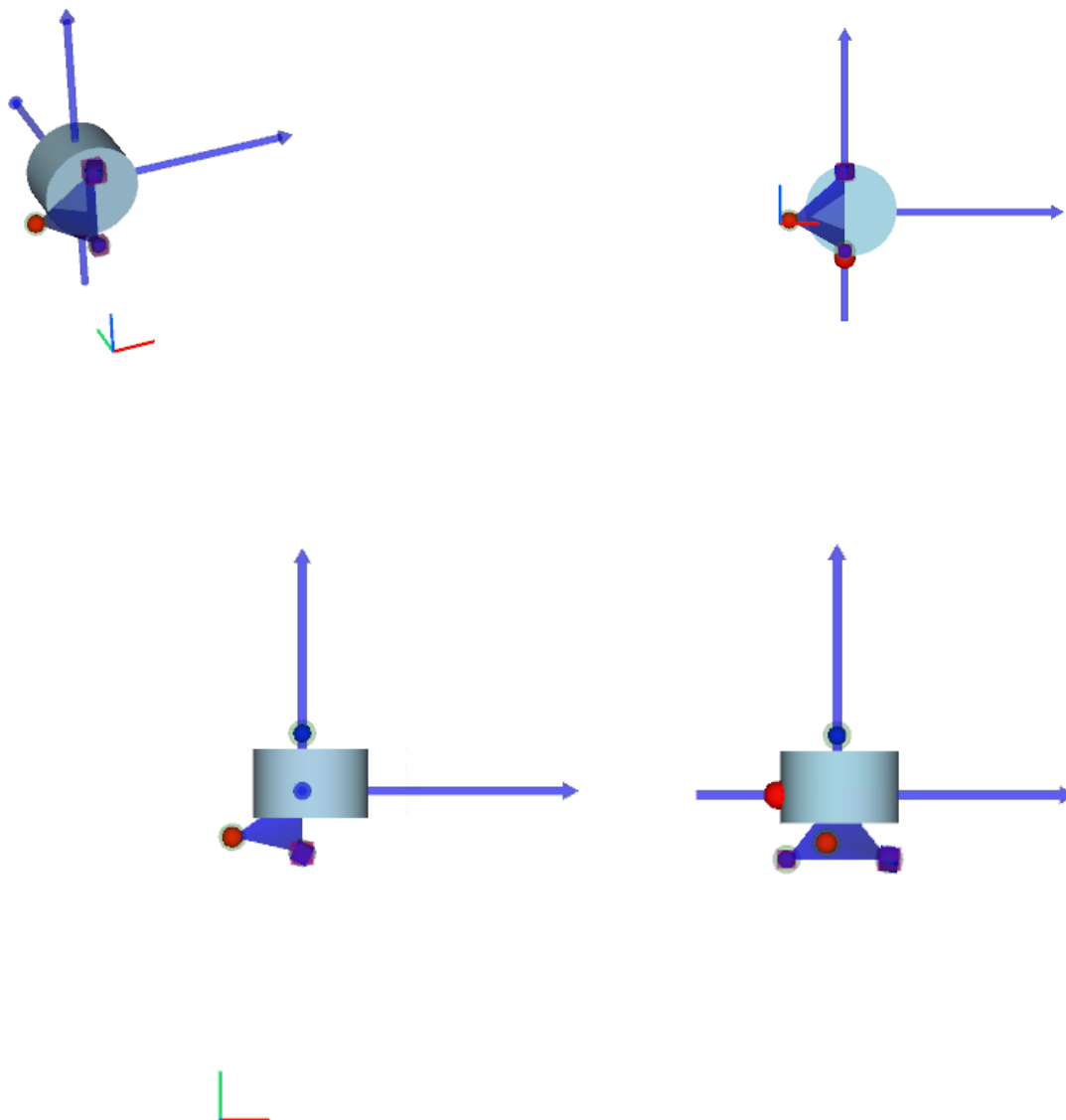


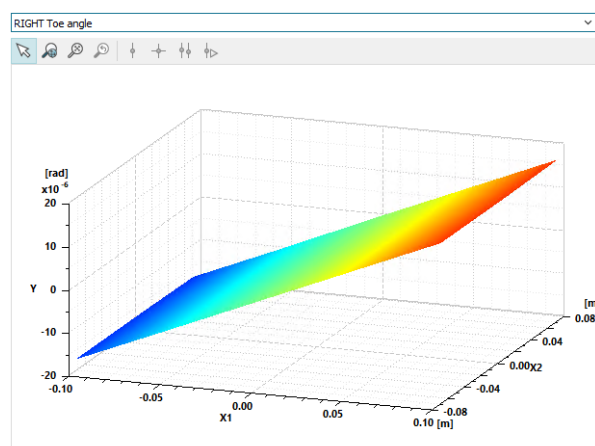
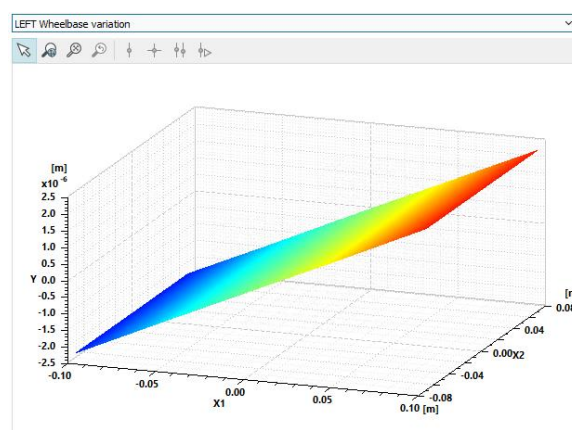
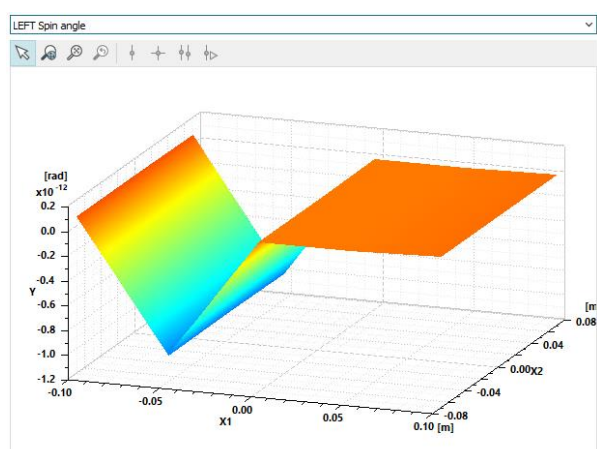
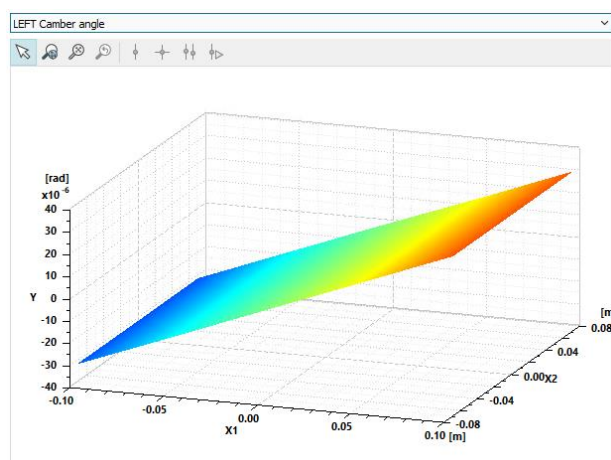
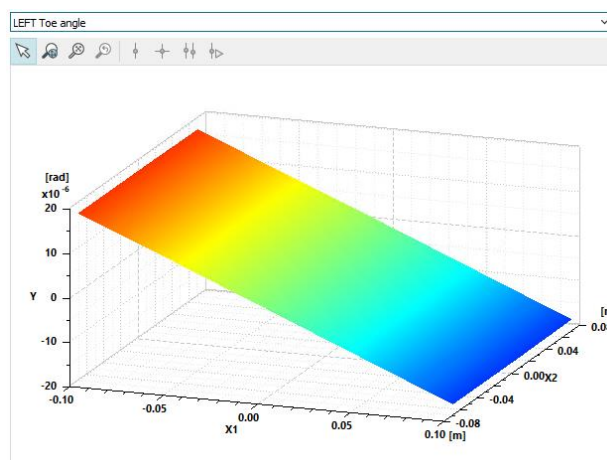


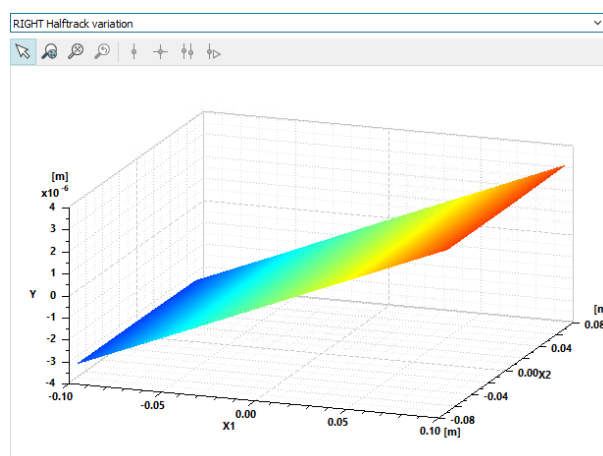
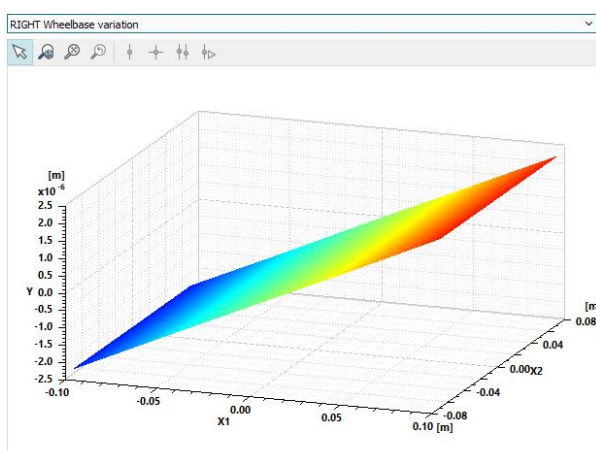
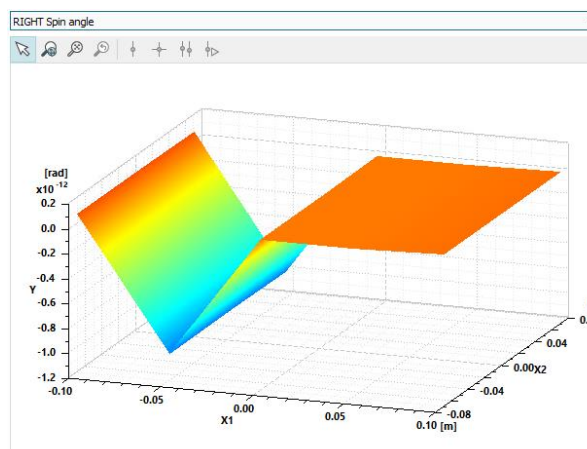
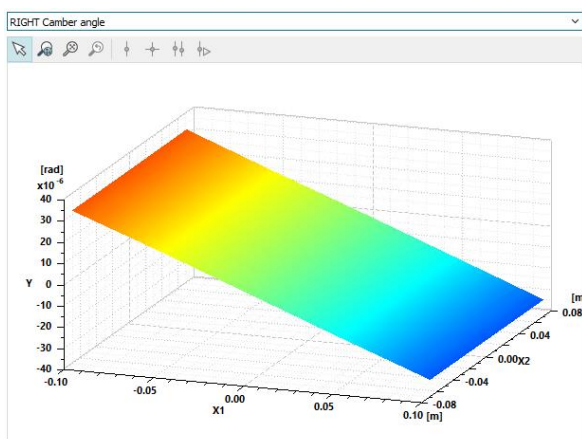
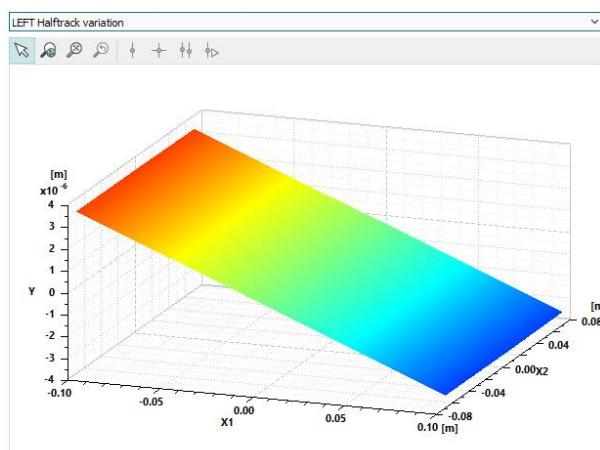


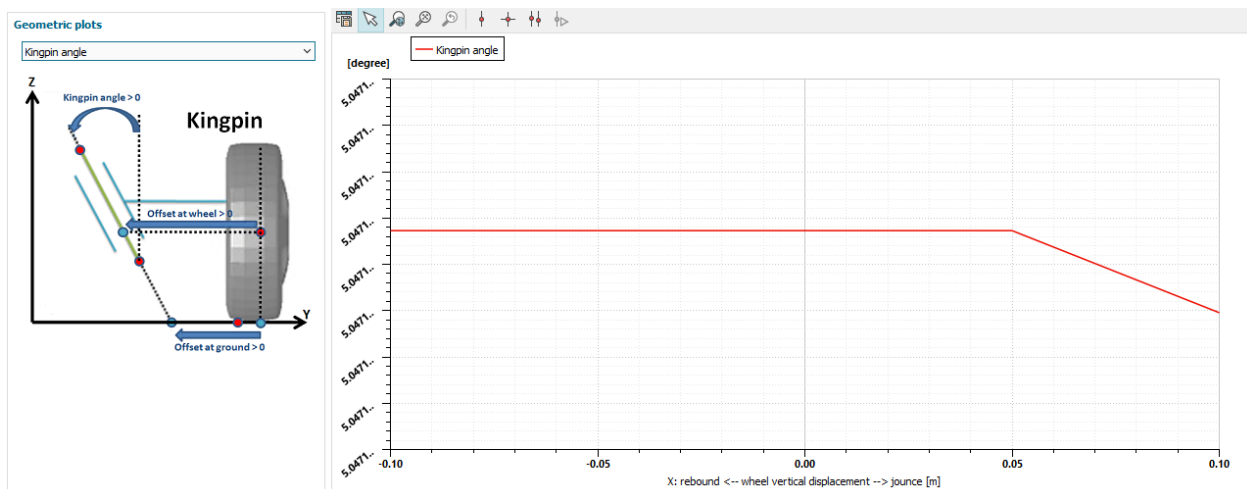
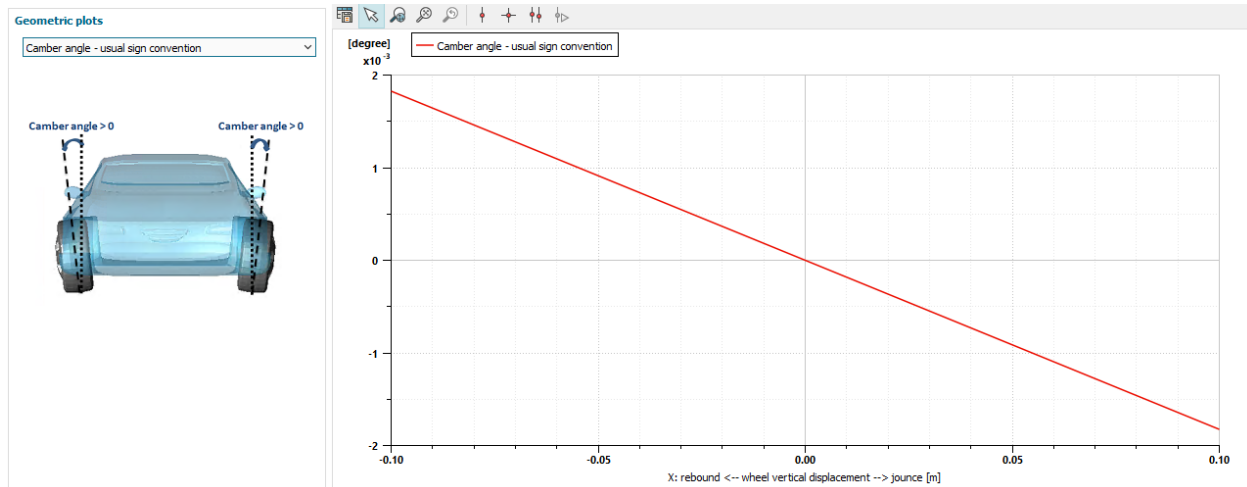
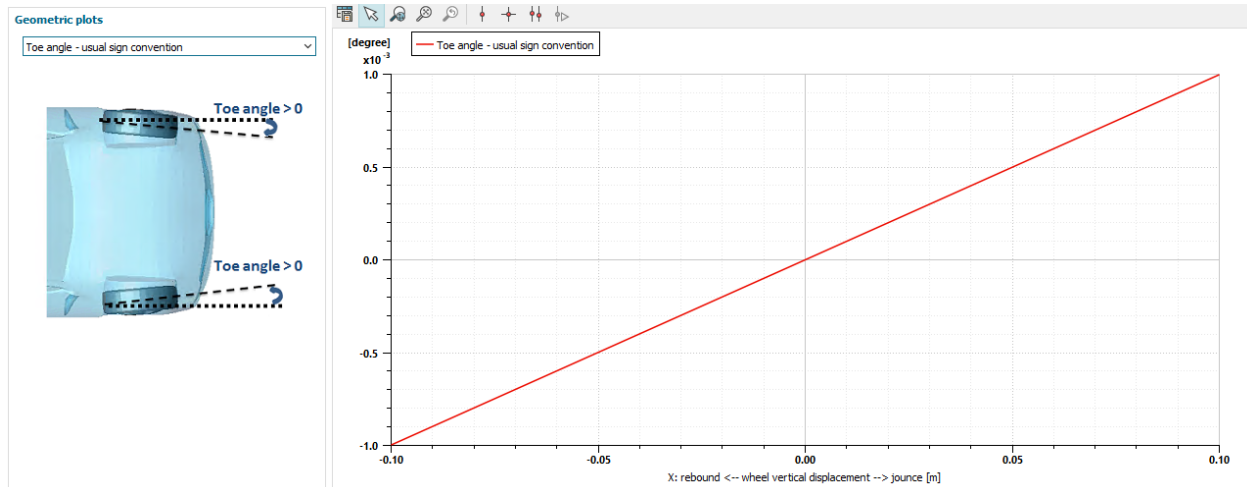


2.Melléklet: A merev hátsó felfüggesztés kimaradt adatai A vizsgált jellemző (Y) a fejlécben olvasható, a kerék függőleges irányú elmozdulása (X1), a kormányösszekötő elmozdulása (X2)

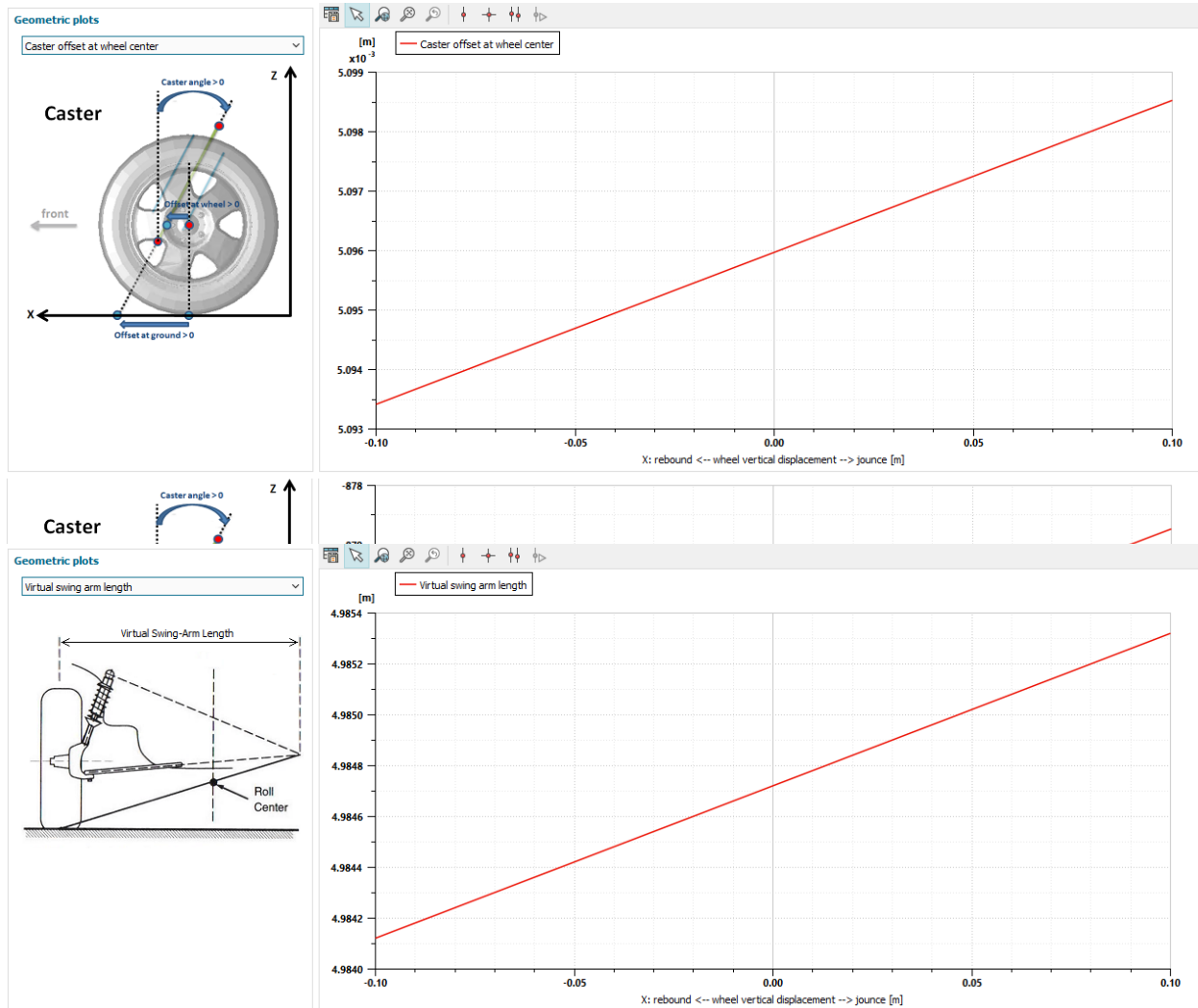


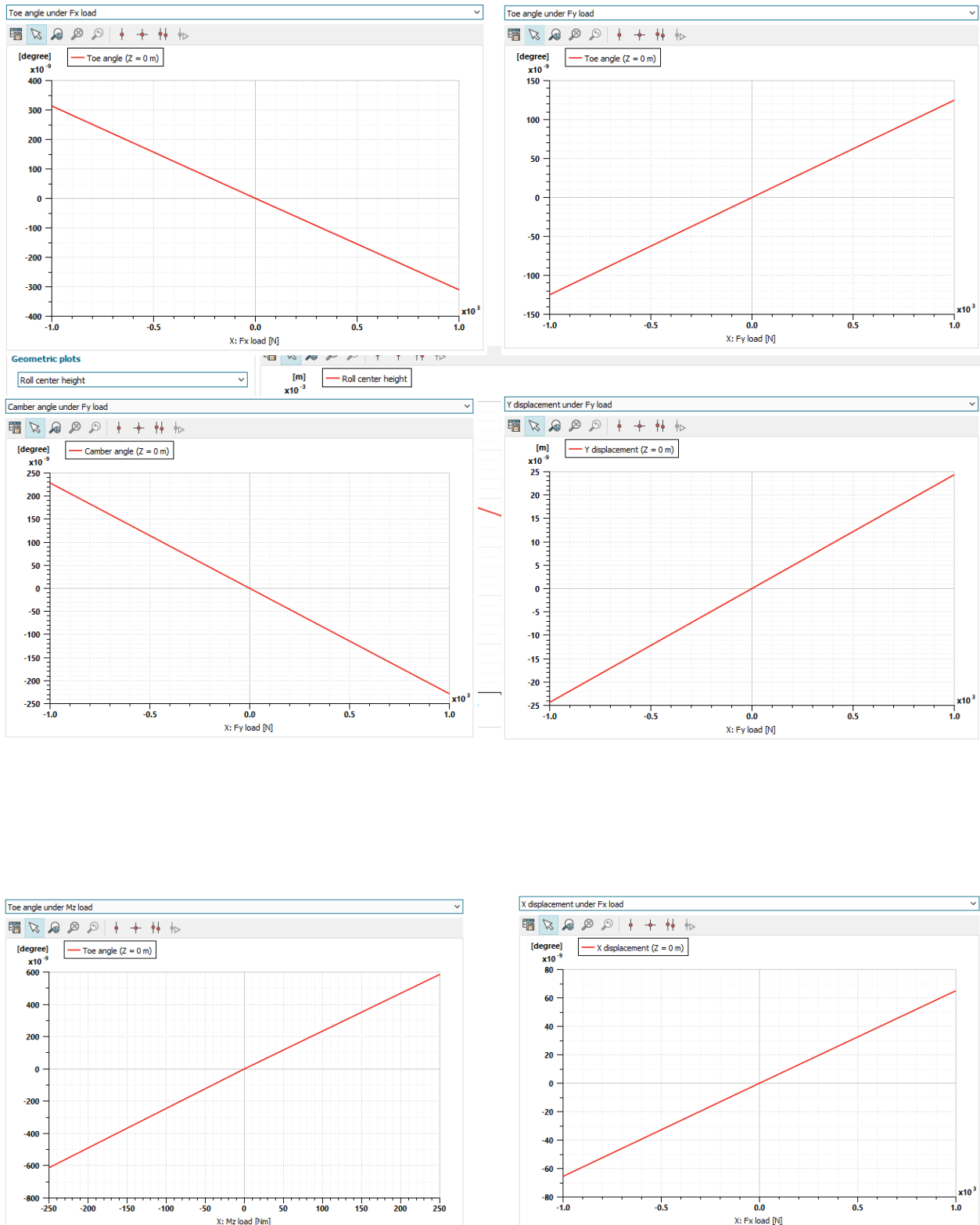




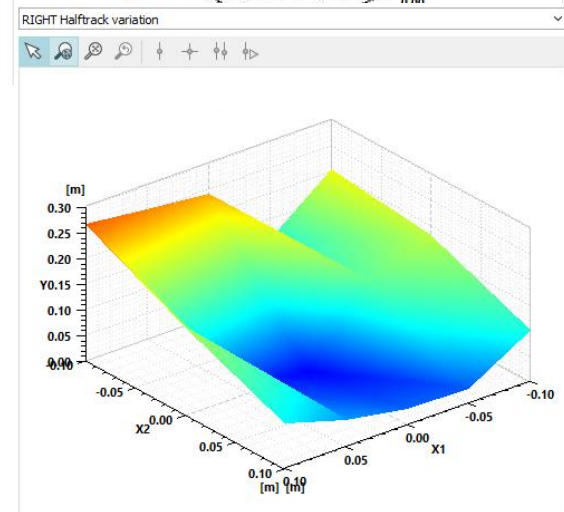
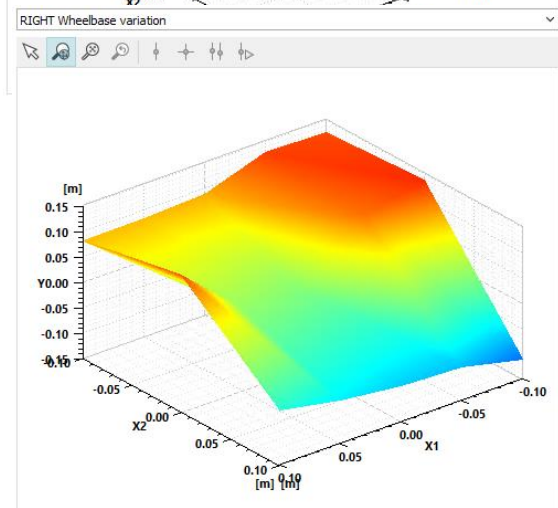
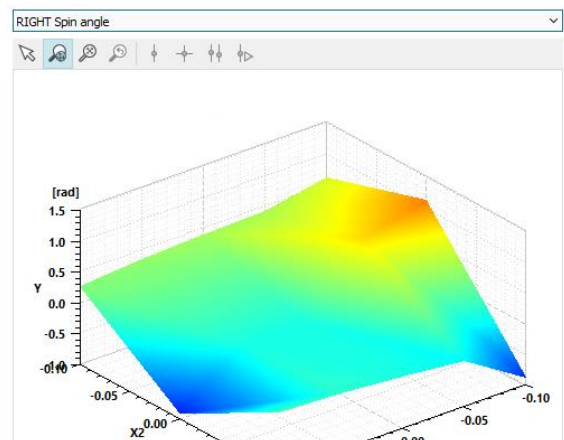
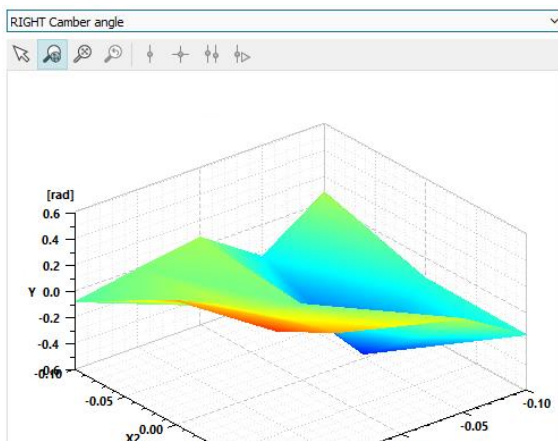
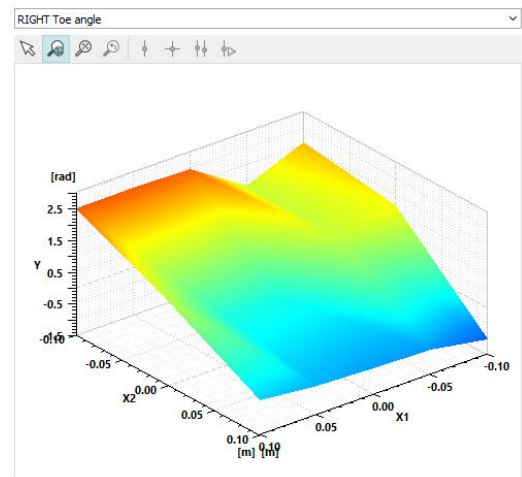
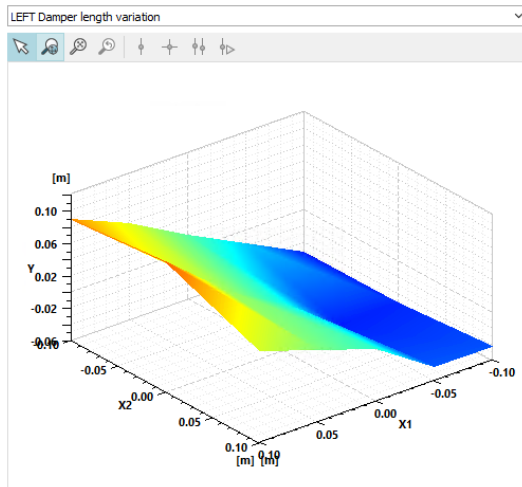


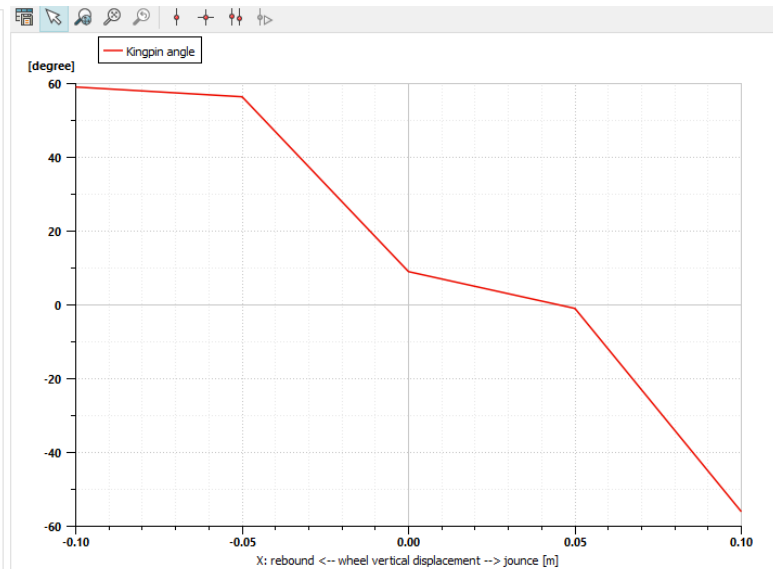
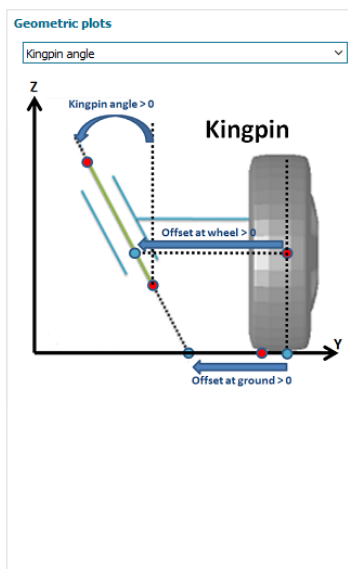
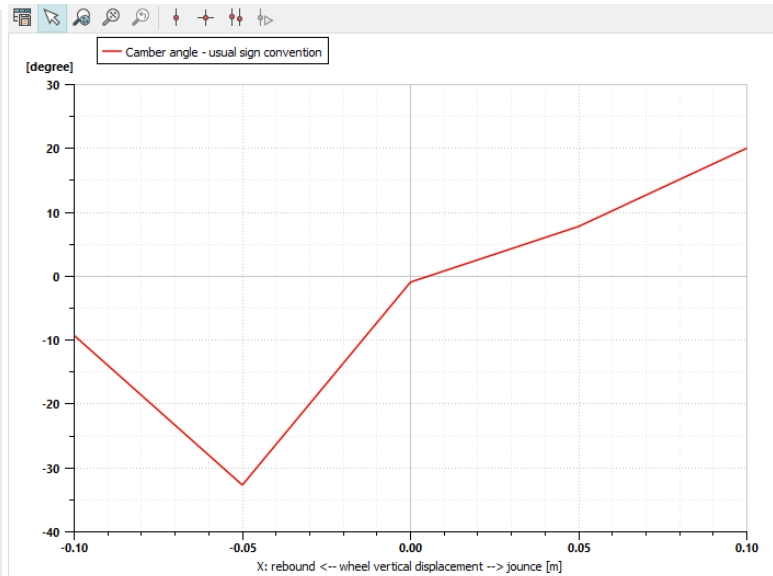
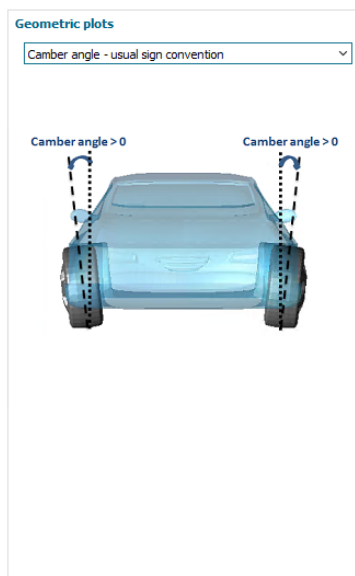
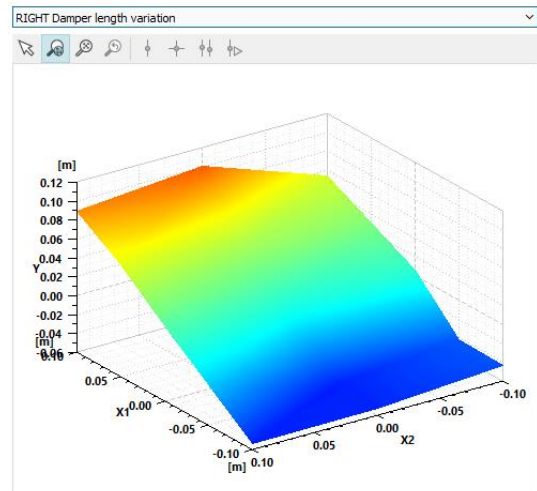
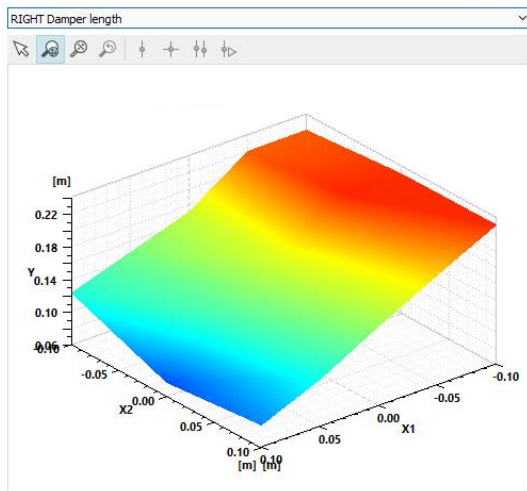


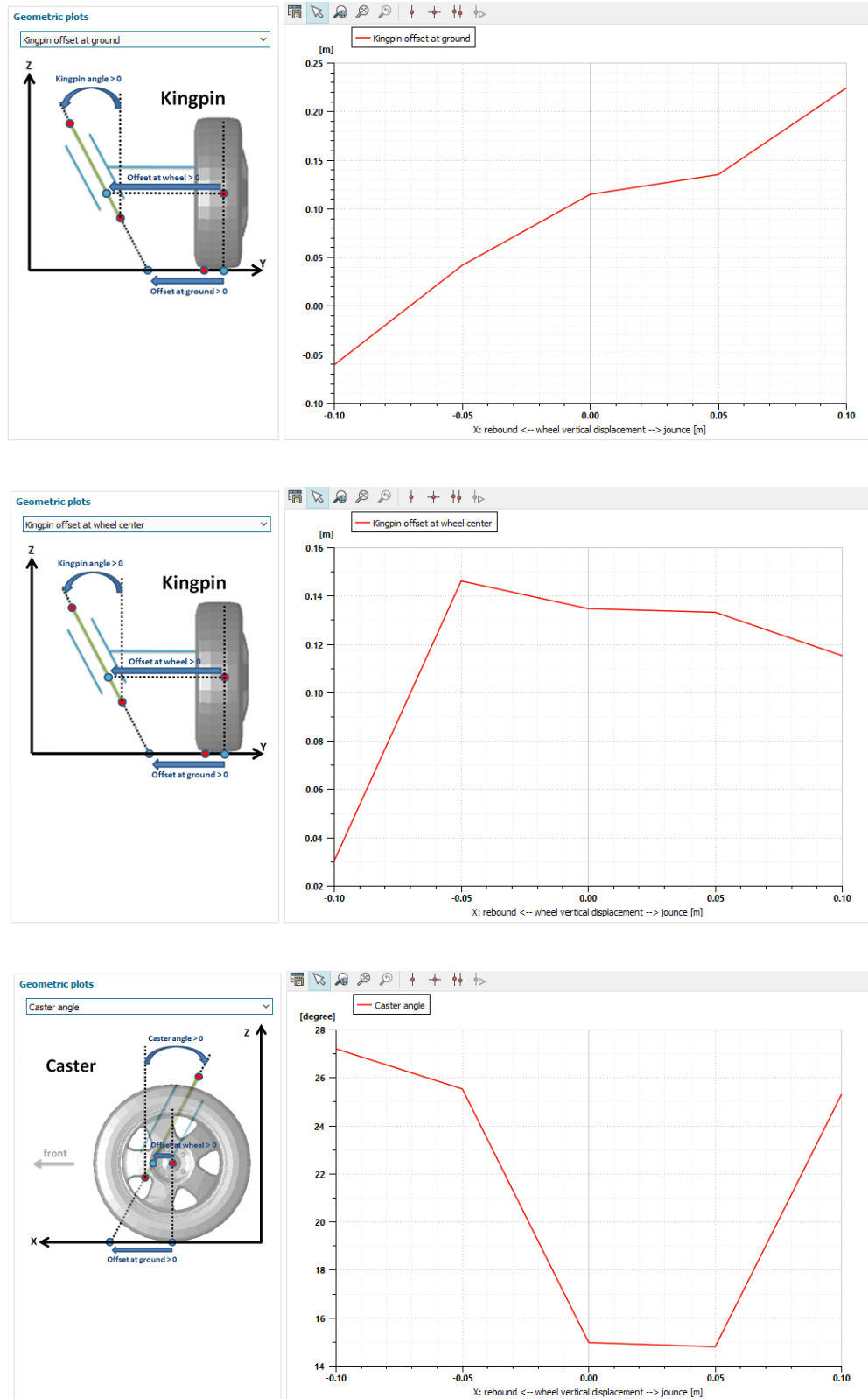


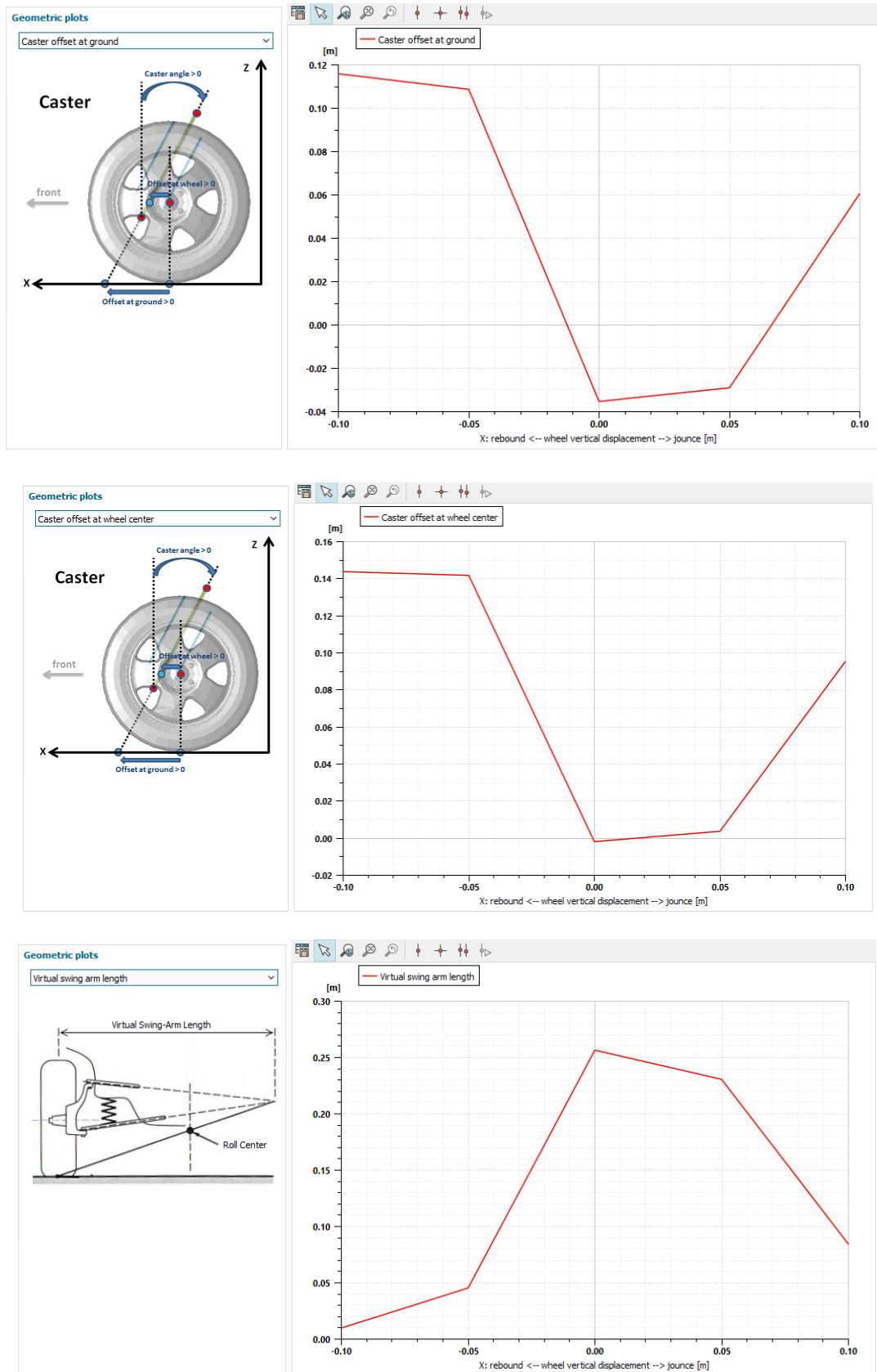


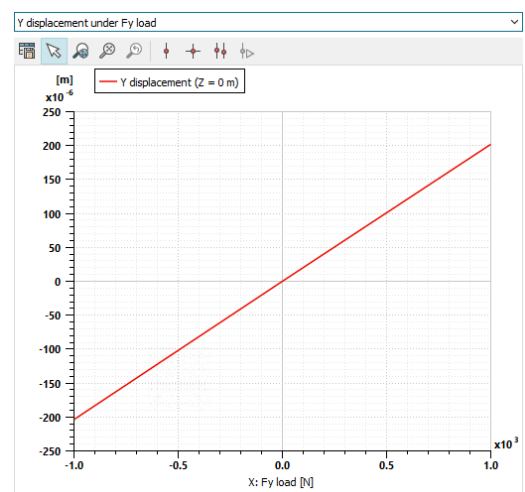
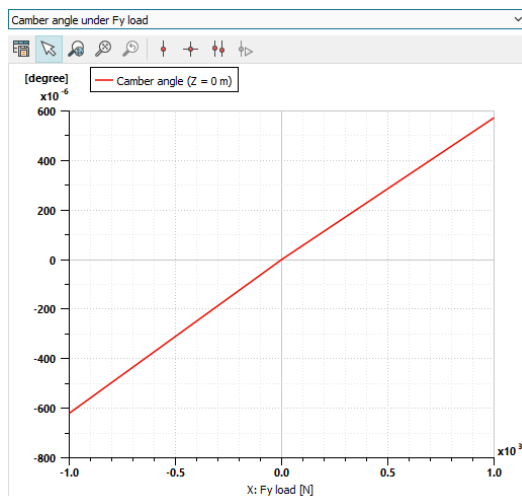
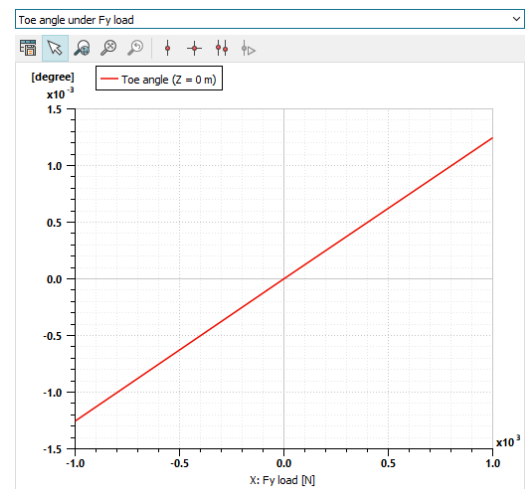
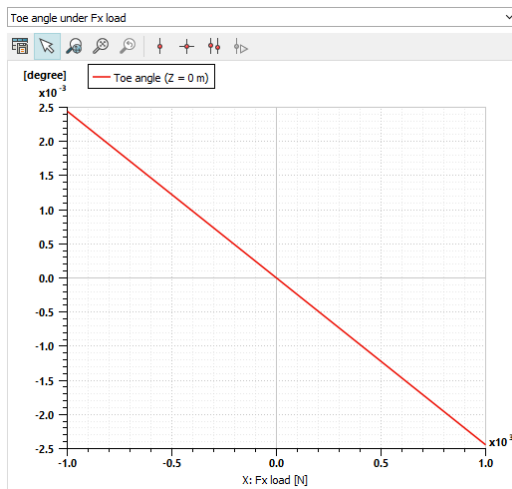
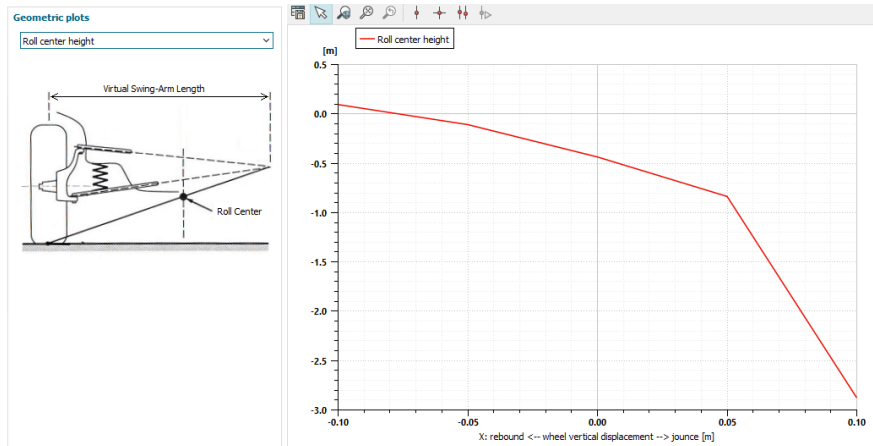
3.Melléklet. A rugózott első felfüggesztés kimaradt adatai A vizsgált jellemző (Y) a fejlécben olvasható, a kerék függőleges irányú elmozdulása (X1), a kormányösszekötő elmozdulása (X2)

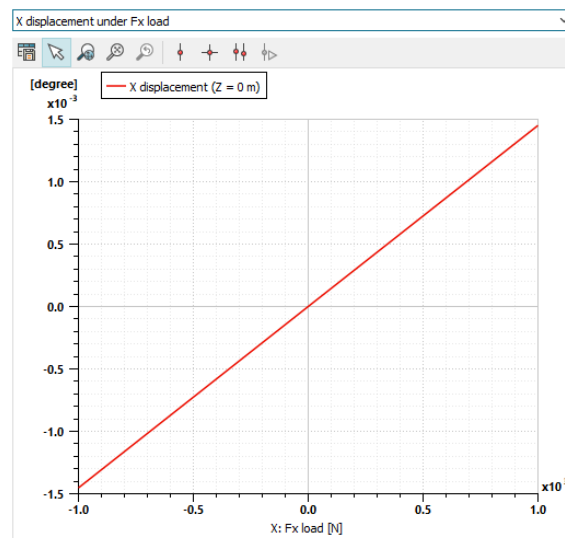
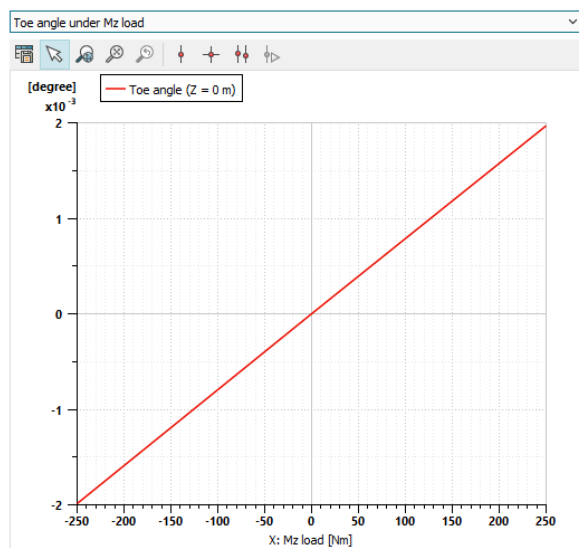




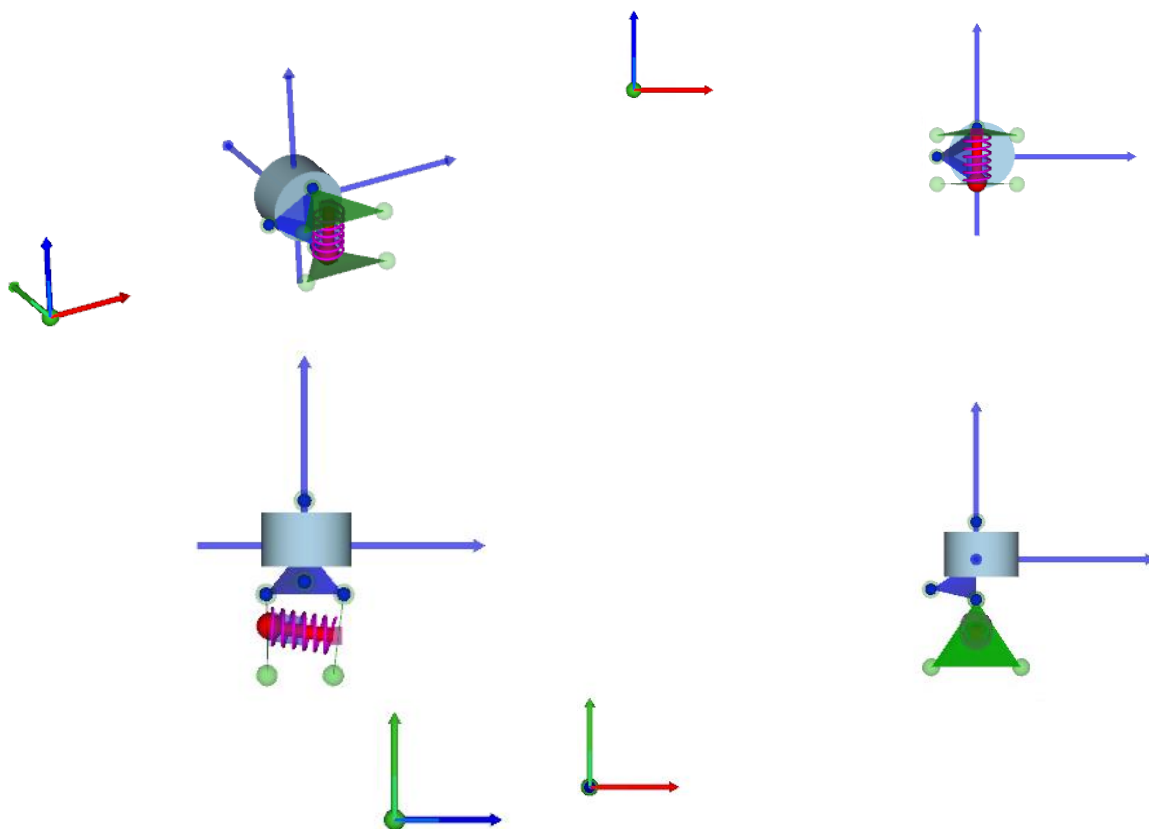


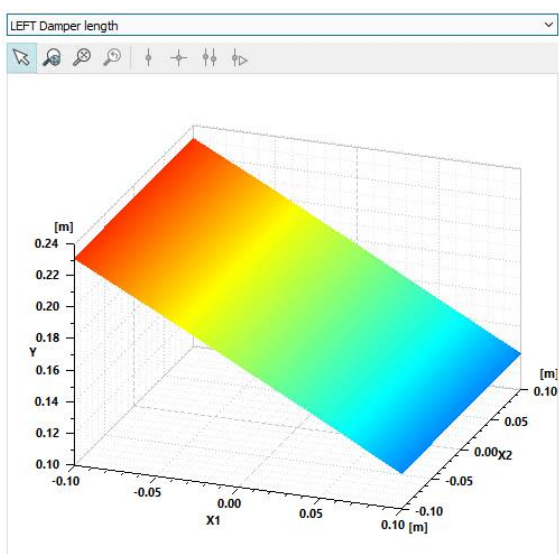
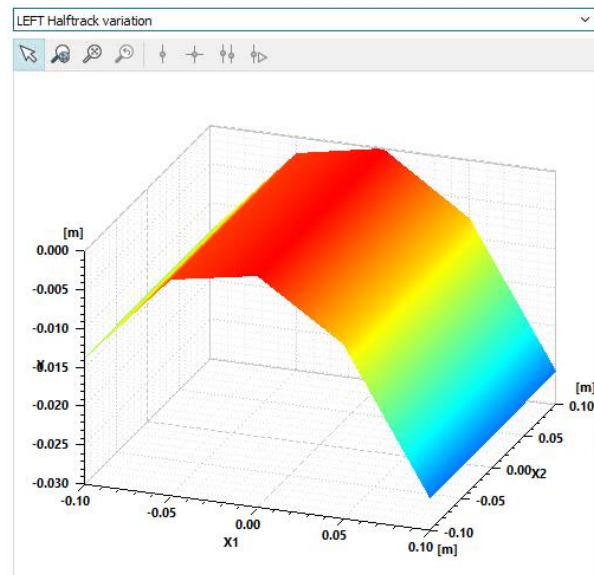
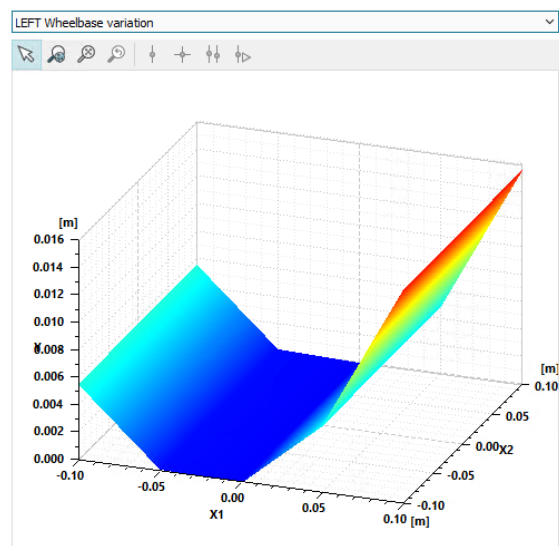
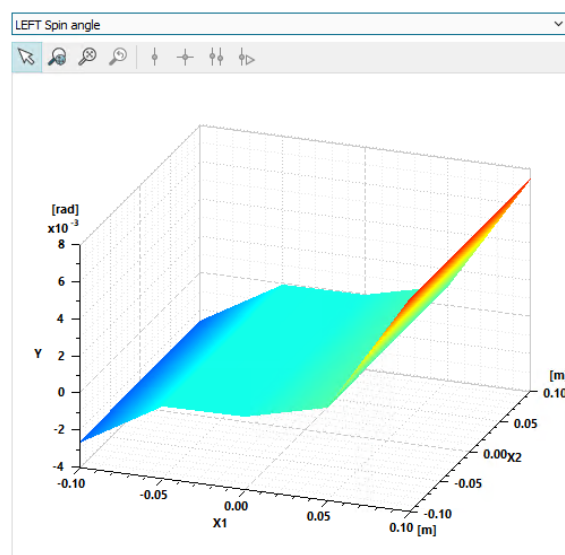
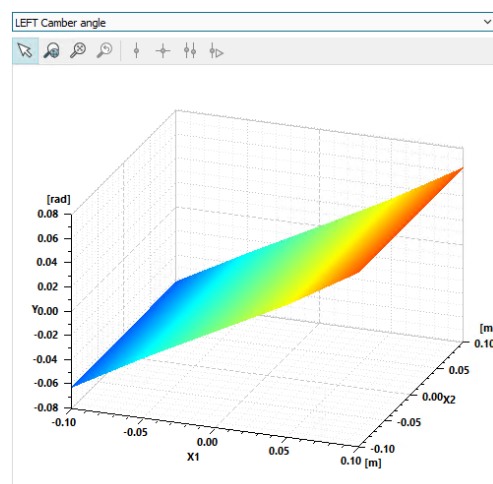
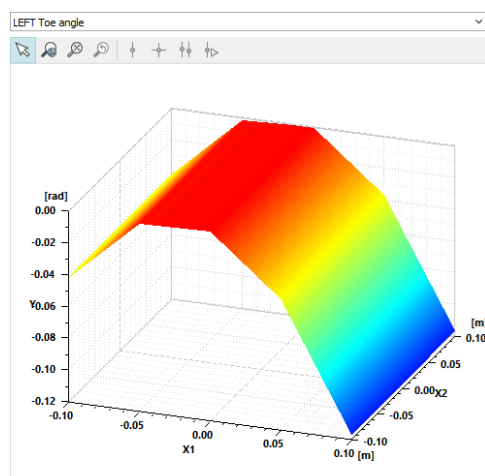


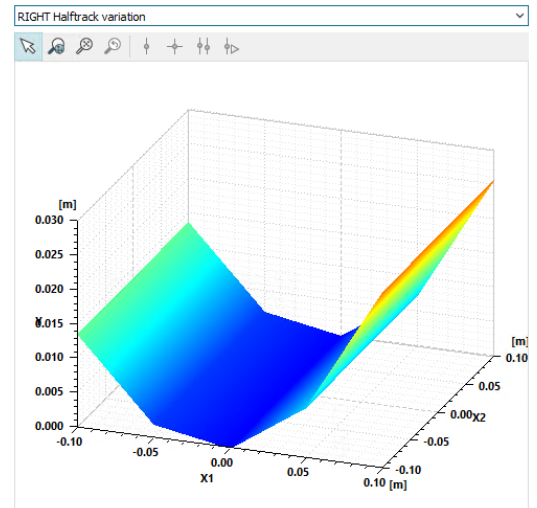
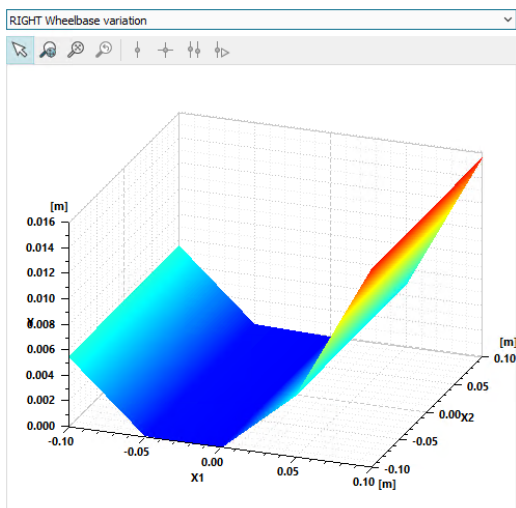
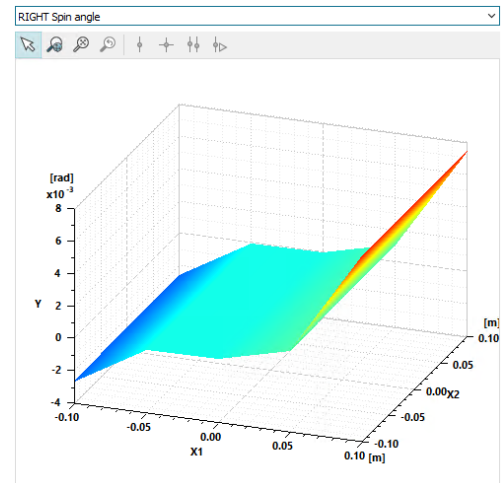
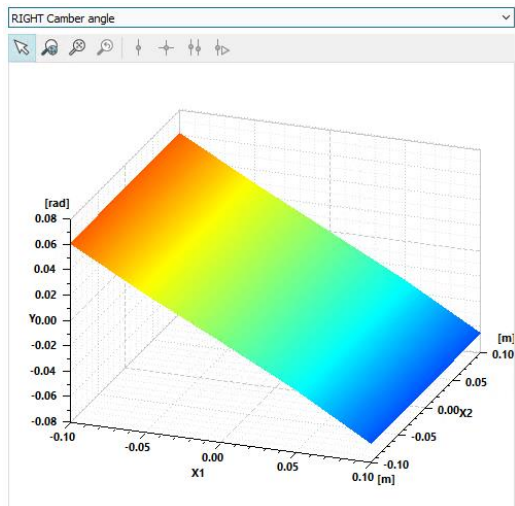
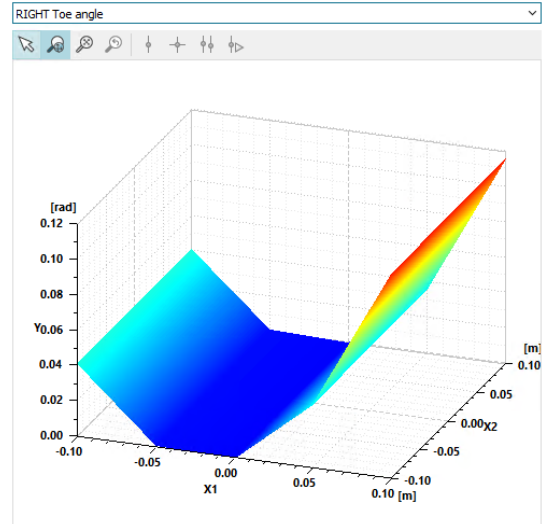
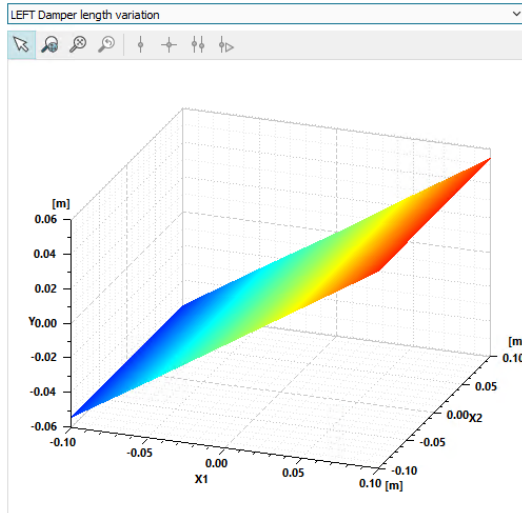


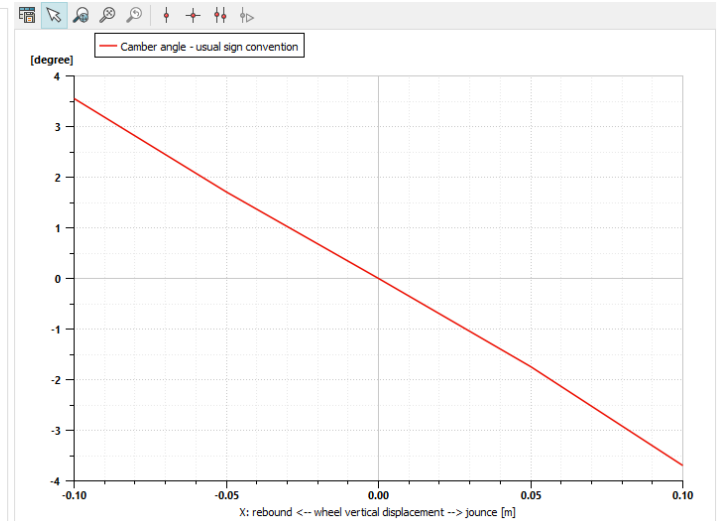
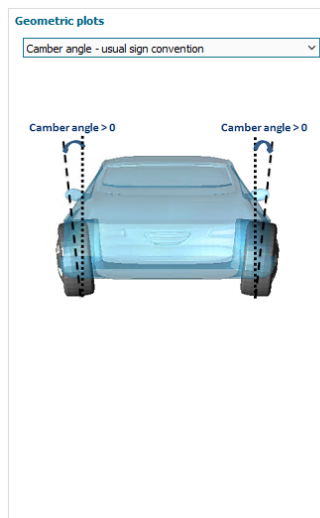
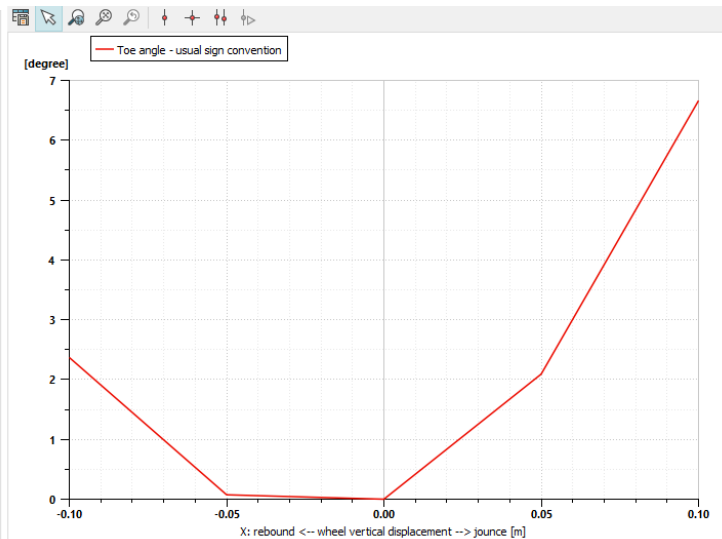
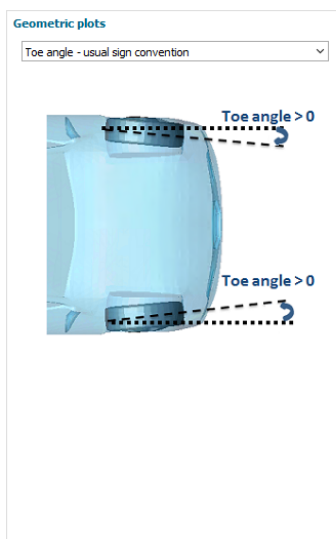
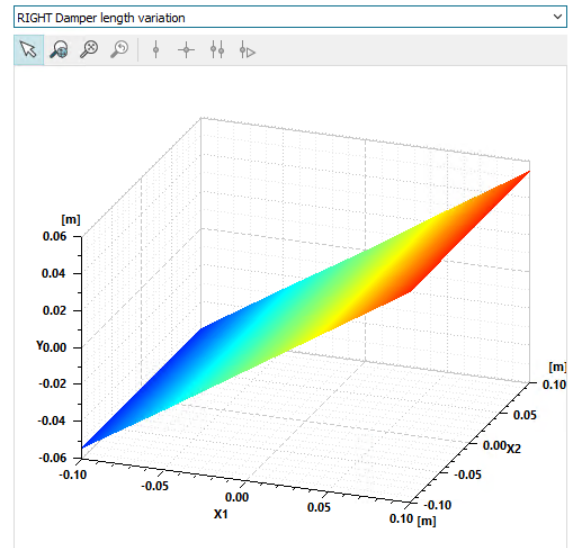
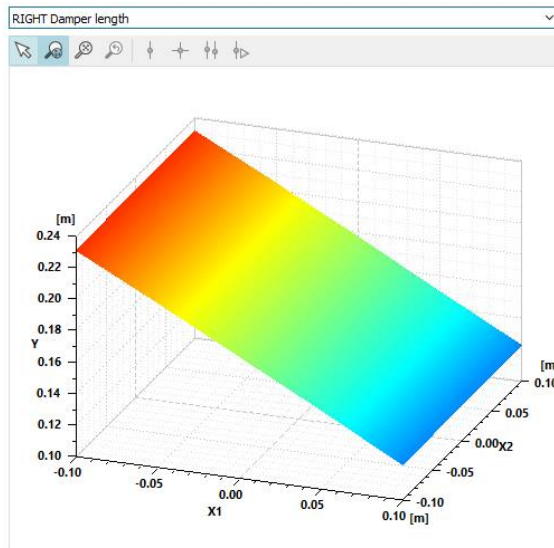


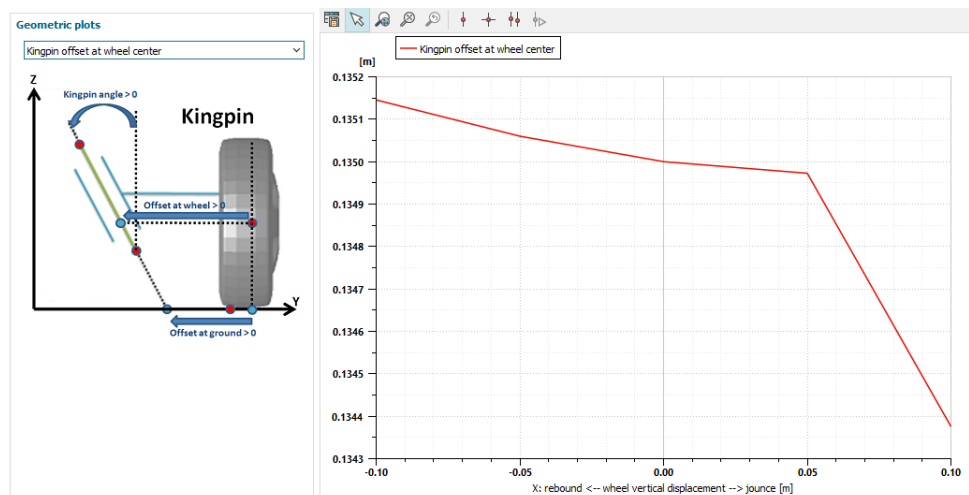
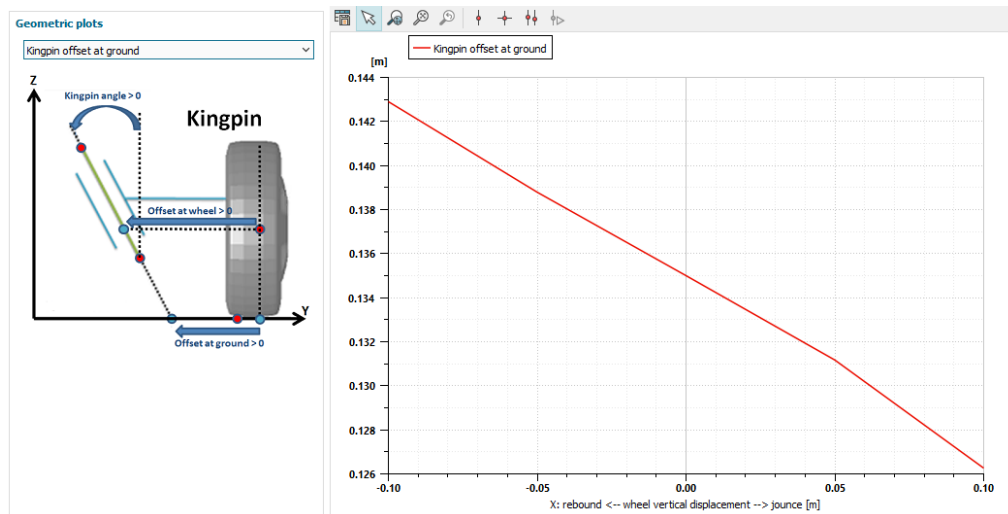
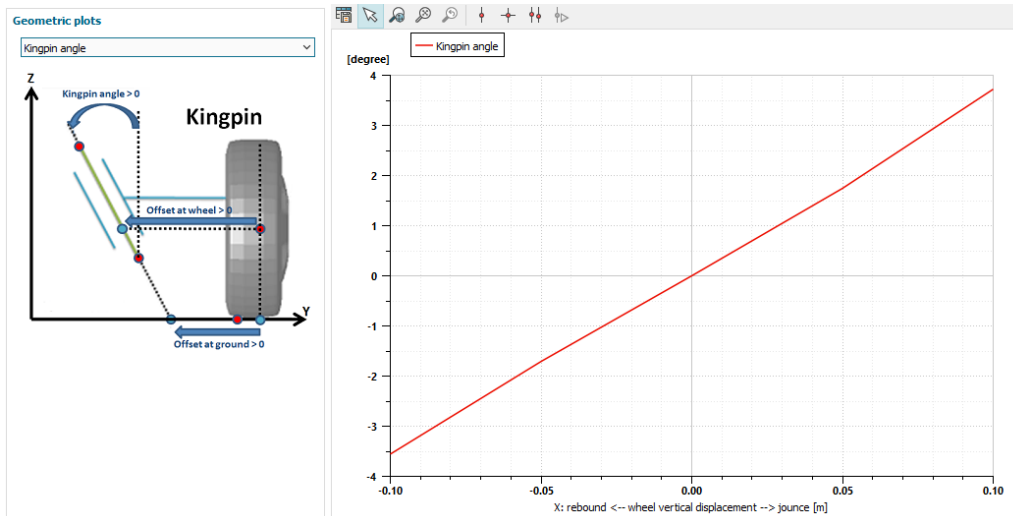
4.Melléklet. A rugózott hátsó felfüggesztés kimaradt adatai A vizsgált jellemző (Y) a fejlécben olvasható, a kerék függőleges irányú elmozdulása (X1), a kormányösszekötő elmozdulása (X2)

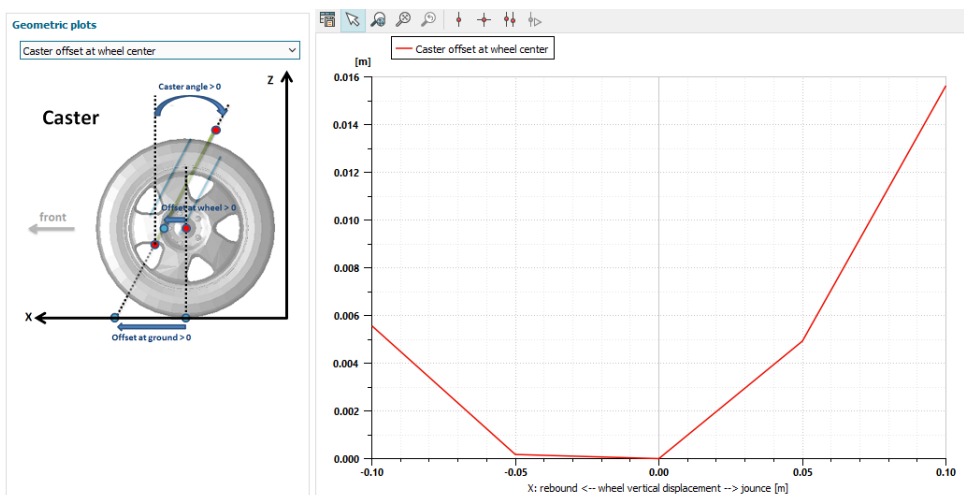
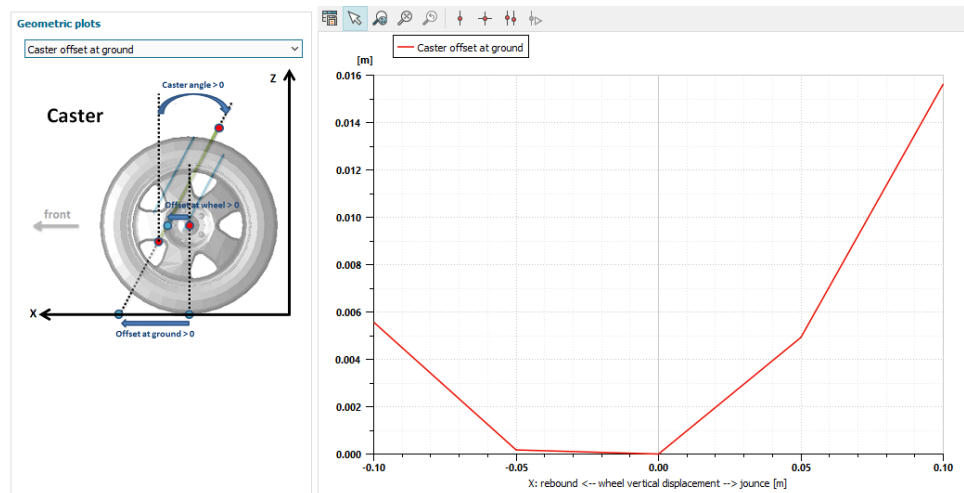
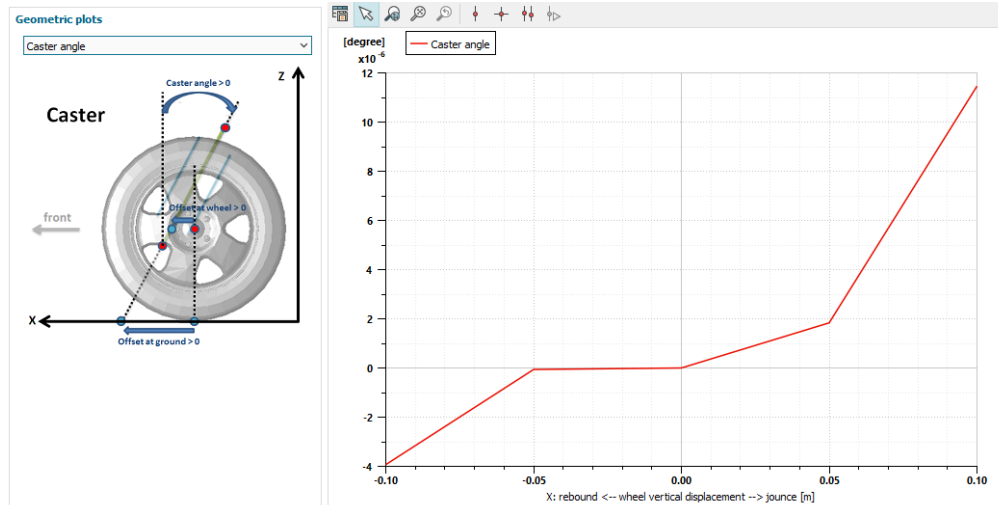


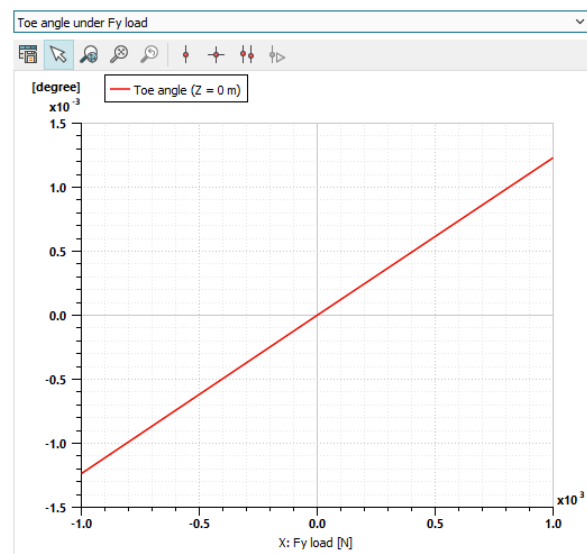
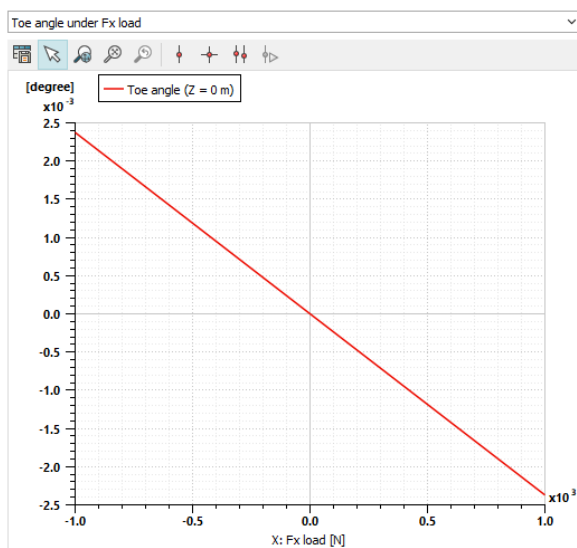
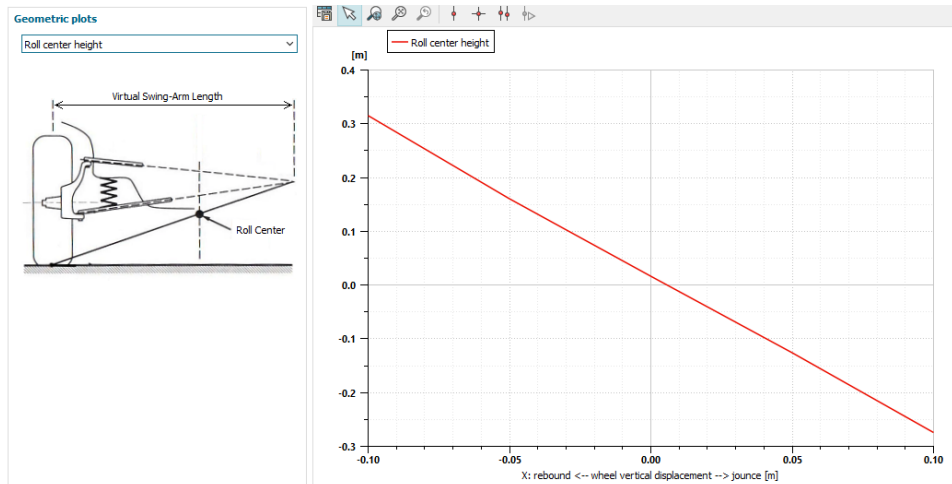
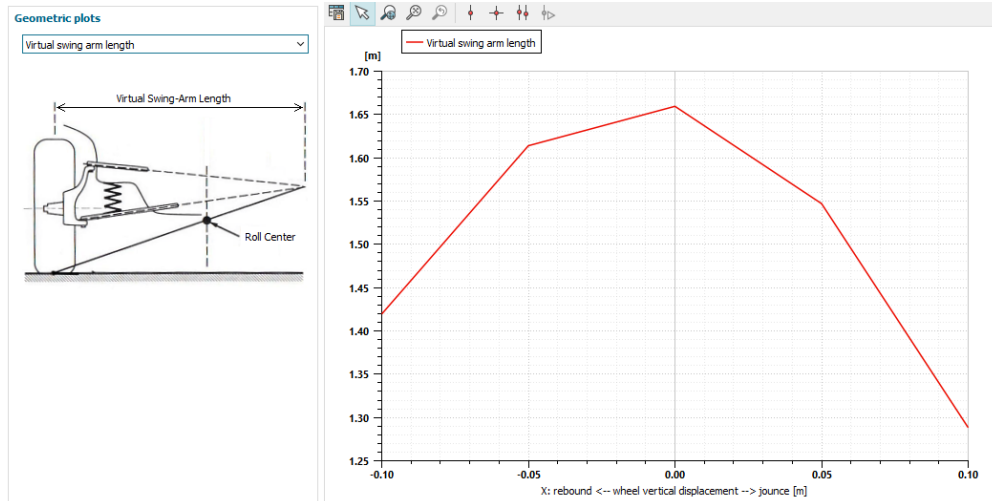


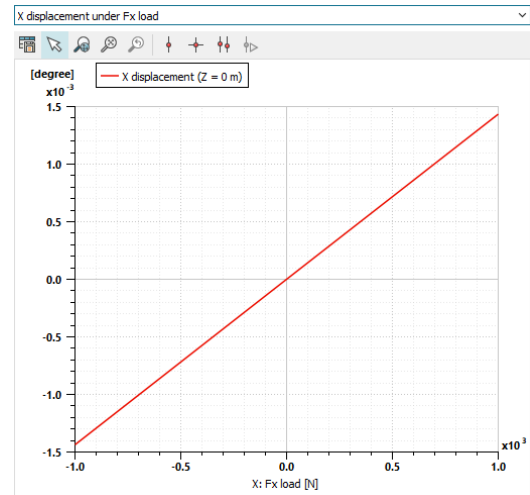
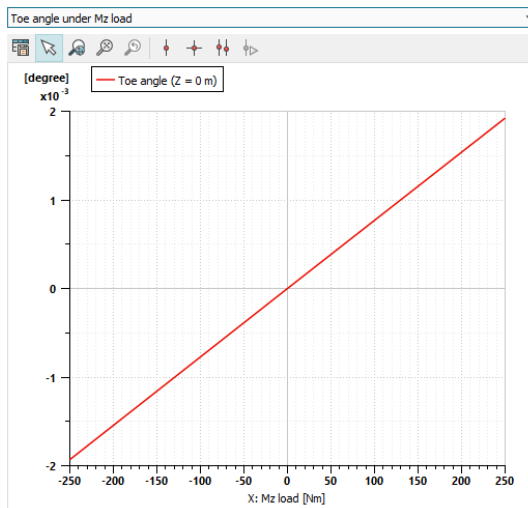
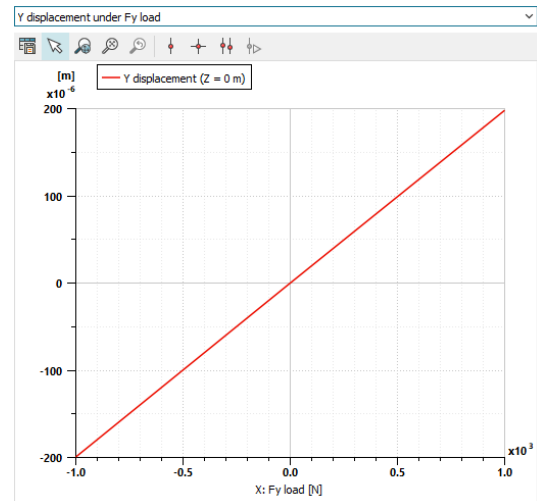
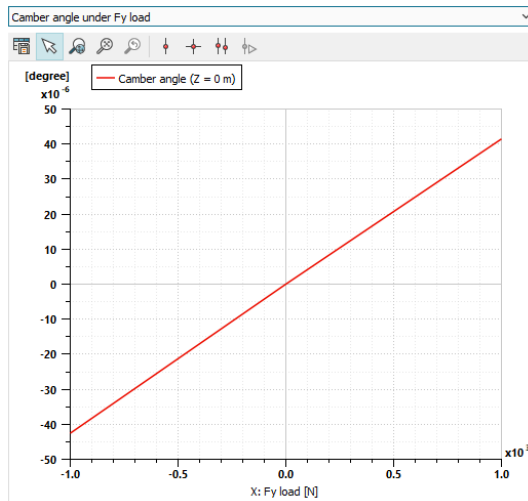




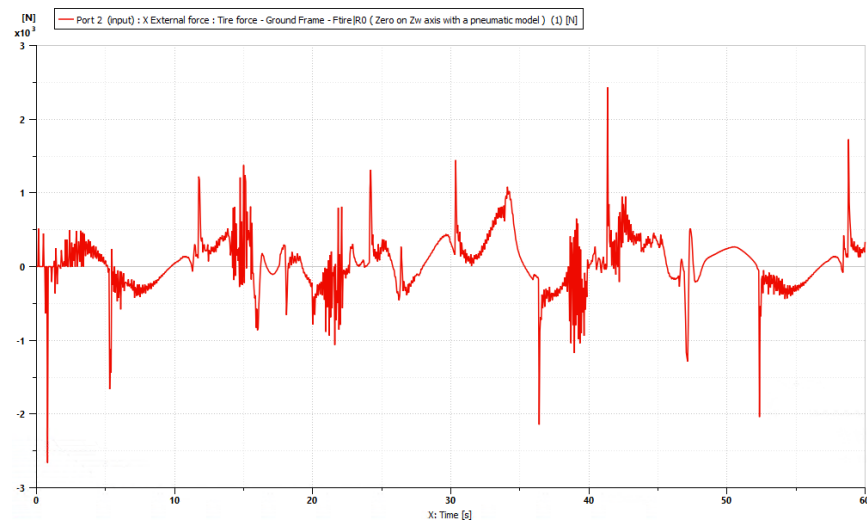


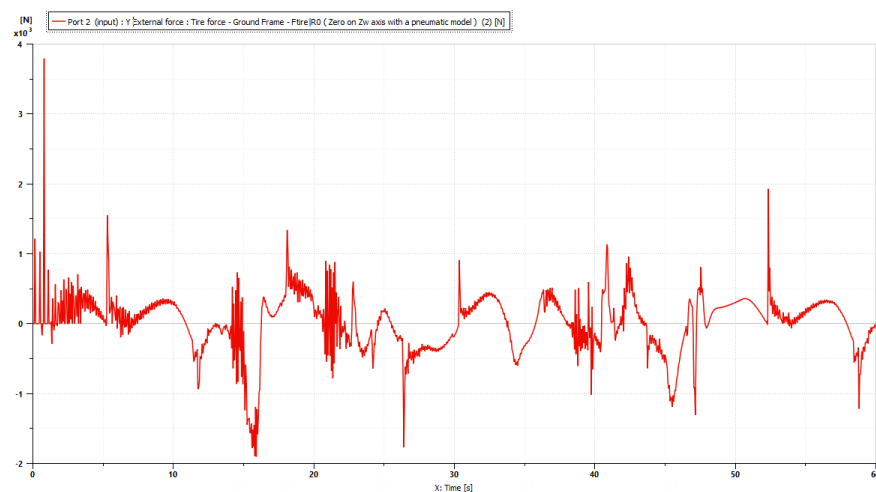




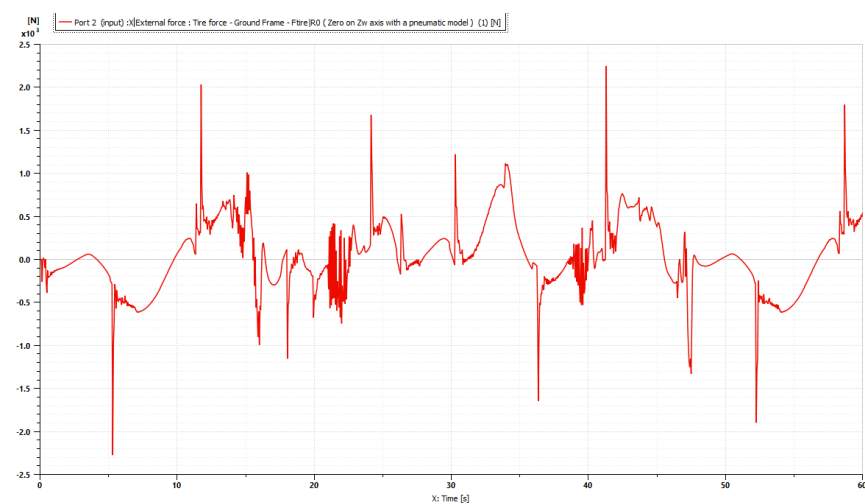


5. Melléklet. A merev felfüggesztés kimaradt adatai pályakövetésnél





6.Melléklet. A rugózott (semleges) felfüggesztés kimaradt adatai pályakövetésnél



7.Melléklet. Bemeneti paraméterek, és összefüggések

Merev

Name	Title	Value	Unit	Tags	Minimum	Default	Maximum	Type
Grav	title	9.80665	m/s/s					Real
Xg	title	500	mm					Real
Zg	title	130	mm					Real
V0	title	5	m/s					Real
Msprung	title	300	kg					Real
Msteer	title	2	kg					Real
Mcar	title	Msprung-Msteer	kg					Real
Msp_front	title	18	kg					Real
Mwh_front	title	18	kg					Real
Msp_rear	title	15	kg					Real
Mwh_rear	title	14	kg					Real
Isprung_xx	title	19	kgm**2					Real
Isprung_yy	title	6.4	kgm**2					Real
Isprung_zz	title	18	kgm**2					Real
Isprung_xy	title	0.5	kgm**2					Real
Isprung_xz	title	0.02	kgm**2					Real
Isprung_yz	title	2	kgm**2					Real
Zref_front	title	Zg-100	mm					Real
Zref_rear	title	Zg-100	mm					Real
Zref_cine_front	title	Zref_front	mm					Real
Zref_cine_rear	title	Zref_rear	mm					Real
wheelbase	title	1080	mm					Real
track_front	title	1000	mm					Real
track_rear	title	850	mm					Real
Rpinion	title	8	mm					Real
Fzref_front	title	floor(Msprung*G...	N					Real
Fzref_rear	title	floor(Msprung*G...	N					Real
Ksusp_front	title	21000	N/m					Real
Ksusp_rear	title	21000	N/m					Real
Rsusp_front	title	2000	N/(m/s)					Real
Rsusp_rear	title	1500	N/(m/s)					Real
Kantiroll_front	title	30000	Nm/rad					Real
Kantiroll_rear	title	20000	Nm/rad					Real
Rfree	title	0.127	m					Real
Rroll	title	0.125	m					Real
Ktire	title	200000	N/m					Real
Rtire	title	100	N/(m/s)					Real
a1	title	-50	null					Real
a2	title	1200	null					Real
a3	title	1000	null					Real
a4	title	5	null					Real

Name	Title	Value	Unit	Tags	Minimum	Default	Ma ^
▼ ☐ Axle geometry							
▼ ☐ Hard Point location (Chassis Frame)							
OA_x	OA_x	1.29-0.002	m				
OA_y	OA_y	0.76	m				
OA_z	OA_z	-0.25	m				
OB_x	OB_x	1.29+0.0175	m				
OB_y	OB_y	0.76-0.002	m				
OB_z	OB_z	OA_z-0.125	m				
OC_x	OC_x	1.25968	m				
OC_y	OC_y	0.569	m				
OC_z	OC_z	0.2775	m				
OD_x	OD_x	1.29+0.015	m				
OD_y	OD_y	0.625+0.0092	m				
OD_z	OD_z	-0.35657+0.05	m				
OE1_x	OE1_x	1.2938	m				
OE1_y	OE1_y	0.40013	m				
OE1_z	OE1_z	-0.357	m				
OE2_x	OE2_x	1.00395	m				
OE2_y	OE2_y	0.374477	m				
OE2_z	OE2_z	-0.35193	m				
OM_x	OM_x	1.13858	m				
OM_y	OM_y	0.66	m				
OM_z	OM_z	-0.2725	m				
ON_x	ON_x	1.11294	m				
ON_y	ON_y	0.045	m				
ON_z	ON_z	-0.282	m				
OK_x	OK_x	1.29-0.016	m				
OK_y	OK_y	0.625-0.0092	m				
OK_z	OK_z	-0.14071-0.05	m				
OW_x	OW_x	1.28+0.0061	m				
OW_y	OW_y	OA_y+0.125	m				
OW_z	OW_z	-0.25+0.002	m				
▼ ☐ Static toe, camber and self-rotating angle							
AW_x	AW_x	OW_x-OA_x	m				
AW_y	AW_y	OW_y-OA_y	m				
AW_z	AW_z	OW_z-OA_z	m				
AW_norm	AW_norm	$\sqrt{AW_x^2+AW_y^2+AW_z^2}$	m				
j2_x	j2_x	AW_x/AW_norm	m				
j2_y	j2_y	AW_y/AW_norm	m				
j2_z	j2_z	AW_z/AW_norm	m				
BA_x	BA_x	OA_x-OB_x	m				
BA_y	BA_y	OA_y-OB_y	m				

Help

OK

Cancel

Apply

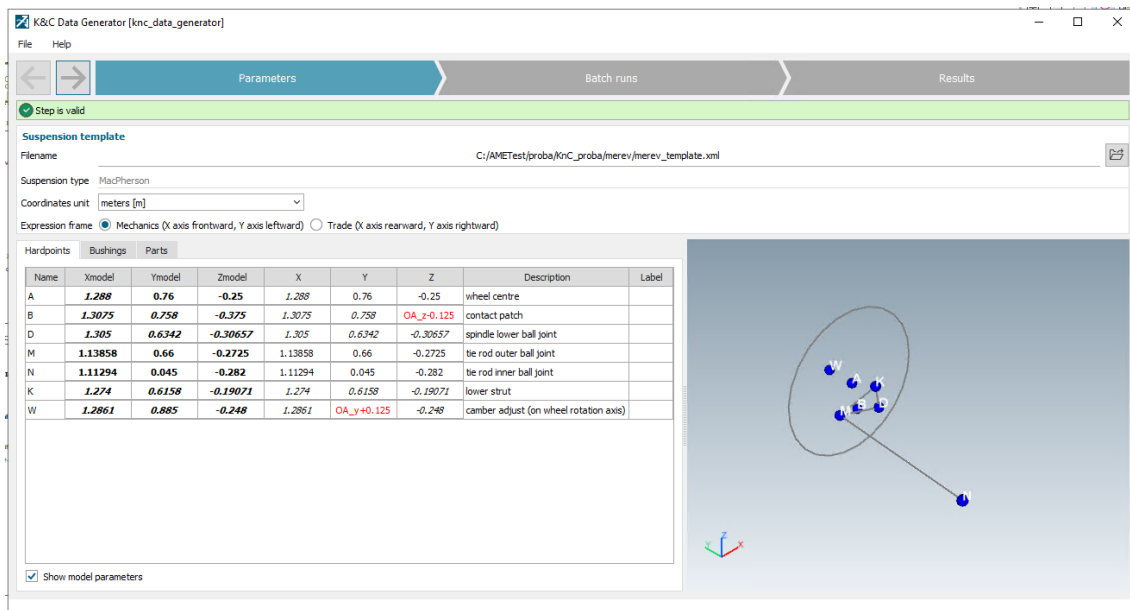
Name	Title	Value	Unit	Tags	Minimum	Default	Ma
BA_z	BA_z	OA_z-OB_z	m				
BA_norm	BA_norm	$\sqrt{BA_x^2+BA_y^2}$	m				
k2_x	k2_x	BA_x/BA_norm	m				
k2_y	k2_y	BA_y/BA_norm	m				
k2_z	k2_z	BA_z/BA_norm	m				
i2_x	i2_x	$j2_y*k2_z-j2_z*k2_y$	m				
i2_y	i2_y	$j2_z*k2_x-j2_x*k2_z$	m				
i2_z	i2_z	$j2_x*k2_y-j2_y*k2_x$	m				
Epsilon0	Static camber an...	$\arcsin(j2_z)*180/\pi$	degree				
Delta0	Static toe angle	$\arctan2(-j2_x/\cos\epsilon_0)$	degree				
Eta0	Static self-rotati...	$\arcsin(-i2_z/\cos\epsilon_0)$	degree				
▼ ☐ Anti-roll bar related (not considered in this demo)							
OQ_x	OQ_x		0 m				
OQ_y	OQ_y		0 m				
OQ_z	OQ_z		0 m				
OP_x	OP_x		0 m				
OP_y	OP_y		0 m				
OP_z	OP_z		0 m				
OPsym_x	OPsym_x	OP_x	null				
OPsym_y	OPsym_y	-OP_y	null				
OPsym_z	OPsym_z	OP_z	null				
OR_x	OR_x	1.28318	m				
OR_y	OR_y	0.76226	m				
OR_z	OR_z	-0.25	m				
▼ ☐ Powertrain related (not considered in this demo)							
OT1_x	OT1_x		0 m				
OT1_z	OT1_z		0 m				
OT1_y	OT1_y		0 m				
OT2_x	OT2_x		0 m				
OT2_y	OT2_y		0 m				
OT2_z	OT2_z		0 m				
▶ ☐ Spindle							
▼ ☐ Wheel and Tire							
DB_x	DB_x	OB_x-OD_x	m				
DB_y	DB_y	OB_y-OD_y	m				
DB_z	DB_z	OB_z-OD_z	m				
DW_x	DW_x	OW_x-OD_x	m				
DW_y	DW_y	OW_y-OD_y	m				
DW_z	DW_z	OW_z-OD_z	m				
▶ ☐ Lower control arm							
▶ ☐ Rack and tie rod							

Name	Title	Value	Unit	Tags	Minimum	Default	Ma
BA_z	BA_z	OA_z-OB_z	m				
BA_norm	BA_norm	$\sqrt{BA_x^2 + BA_y^2}$	m				
k2_x	k2_x	BA_x/BA_norm	m				
k2_y	k2_y	BA_y/BA_norm	m				
k2_z	k2_z	BA_z/BA_norm	m				
i2_x	i2_x	$j2_y * k2_z - j2_z * k2_y$	m				
i2_y	i2_y	$j2_z * k2_x - j2_x * k2_z$	m				
i2_z	i2_z	$j2_x * k2_y - j2_y * k2_x$	m				
Epsilon0	Static camber an...	$\text{asin}(j2_z) * 180 / \pi$	degree				
Delta0	Static toe angle	$\text{atan2}(-j2_x / \cos(\dots))$	degree				
Eta0	Static self-rotati...	$\text{asin}(-i2_z / \cos(E\dots))$	degree				
▼ ☐ Anti-roll bar related (not considered in this demo)							
OQ_x	OQ_x	0	m				
OQ_y	OQ_y	0	m				
OQ_z	OQ_z	0	m				
OP_x	OP_x	0	m				
OP_y	OP_y	0	m				
OP_z	OP_z	0	m				
OPsym_x	OPsym_x	OP_x	null				
OPsym_y	OPsym_y	-OP_y	null				
OPsym_z	OPsym_z	OP_z	null				
OR_x	OR_x	1.28318	m				
OR_y	OR_y	0.76226	m				
OR_z	OR_z	-0.25	m				
▼ ☐ Powertrain related (not considered in this demo)							
OT1_x	OT1_x	0	m				
OT1_z	OT1_z	0	m				
OT1_y	OT1_y	0	m				
OT2_x	OT2_x	0	m				
OT2_y	OT2_y	0	m				
OT2_z	OT2_z	0	m				
▼ ☐ Spindle							
DA_x	DA_x	OA_x-OD_x	m				
DA_y	DA_y	OA_y-OD_y	m				
DA_z	DA_z	OA_z-OD_z	m				
DK_x	DK_x	OK_x-OD_x	m				
DK_y	DK_y	OK_y-OD_y	m				
DK_z	DK_z	OK_z-OD_z	m				
DM_x	DM_x	OM_x-OD_x	m				
DM_y	DM_y	OM_y-OD_y	m				
DM_z	DM_z	OM_z-OD_z	m				
DR_x	DR_x	OR_x-OD_x	m				

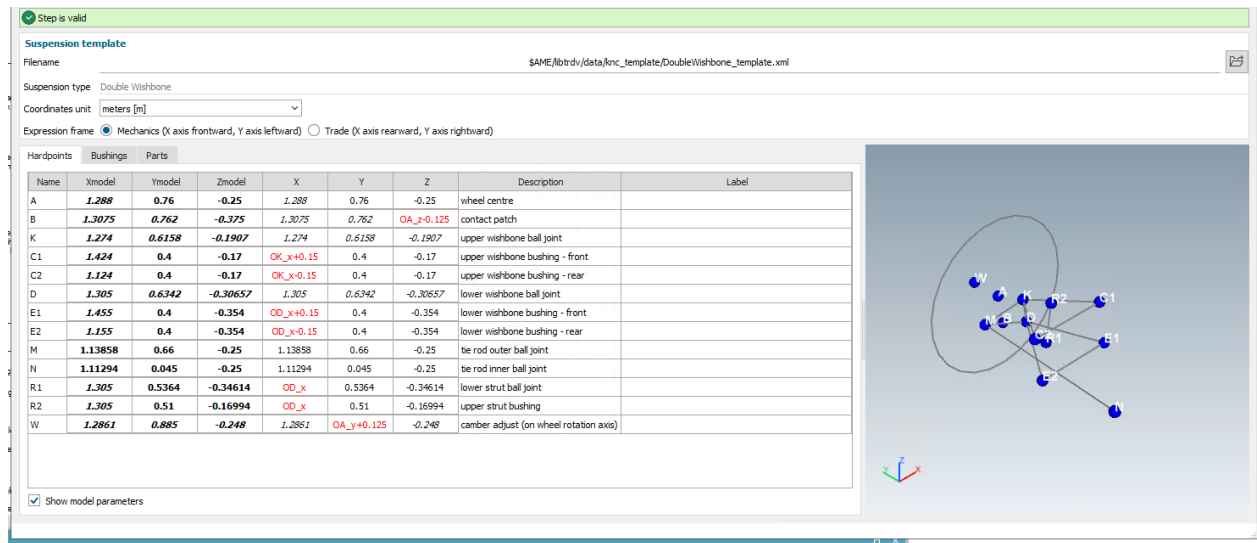
Name	Title	Value	Unit	Tags	Minimum	Default	Ma
DR_y	DR_y	OR_y-OD_y	m				
DR_z	DR_z	OR_z-OD_z	m				
▼ ☐ Wheel and Tire							
DB_x	DB_x	OB_x-OD_x	m				
DB_y	DB_y	OB_y-OD_y	m				
DB_z	DB_z	OB_z-OD_z	m				
DW_x	DW_x	OW_x-OD_x	m				
DW_y	DW_y	OW_y-OD_y	m				
DW_z	DW_z	OW_z-OD_z	m				
▼ ☐ Lower control arm							
DE1_x	DE1_x	OE1_x-OD_x	m				
DE1_y	DE1_y	OE1_y-OD_y	m				
DE1_z	DE1_z	OE1_z-OD_z	m				
DE2_x	DE2_x	OE2_x-OD_x	m				
DE2_y	DE2_y	OE2_y-OD_y	m				
DE2_z	DE2_z	OE2_z-OD_z	m				
E2E1_x	E1E2_x	OE1_x-OE2_x	m				
E2E1_y	E1E2_y	OE1_y-OE2_y	m				
E2E1_z	E1E2_z	OE1_z-OE2_z	m				
▼ ☐ Rack and tie rod							
MN_x	MN_x	ON_x-OM_x	m				
MN_y	MN_y	ON_y-OM_y	m				
MN_z	MN_z	ON_z-OM_z	m				
▼ ☐ Damper rod							
KC_x	KC_x	OC_x-OK_x	m				
KC_y	KC_y	OC_y-OK_y	m				
KC_z	KC_z	OC_z-OK_z	m				
KR_x	KR_x	OR_x-OK_x	m				
KR_y	KR_y	OR_y-OK_y	m				
KR_z	KR_z	OR_z-OK_z	m				
norm_KC	norm_KC	$\sqrt{KC_x^2 + KC_y^2 + KC_z^2}$	m				
azim_DampRod	azim_DampRod	$\text{atan2}(KC_y, KC_x)$	degree				
polar_DampRod	polar_DampRod	$-1 * \text{asin}(KC_z / \text{norm_KC})$	degree				
▼ ☐ Anti-roll bar (not considered in this demo)							
RQ_x	RQ_x	OQ_x-OR_x	m				
RQ_y	RQ_y	OQ_y-OR_y	m				
RQ_z	RQ_z	OQ_z-OR_z	m				
QP_x	QP_x	OP_x-OQ_x	null				
QP_y	QP_y	OP_y-OQ_y	null				
QP_z	QP_z	OP_z-OQ_z	null				
QPsym_x	QPsym_x	OPsym_x-OQ_x	null				
QPsym_y	QPsym_y	OPsym_y-OQ_y	null				
QPsym_z	QPsym_z	OPsym_z-OQ_z	null				

QPsym_y	QPsym_y	OPsym_y-OQ_y	null
QPsym_z	QPsym_z	OPsym_z-OQ_z	null
▼ ☐ Spring stiffness and Damper rating			
spring_rate	spring_rate	10000	N/m
damper_rating	damper_rating	200	N/m/s
▼ ☐ Bushing and "constraints" (for kinematic test)			
ka_E1	ka_E1	10000000000	N/m
kr_E1	kr_E1	10000000000	N/m
ka_E2	ka_E2	10000000000	N/m
kr_E2	kr_E2	10000000000	N/m
ka_C	ka_C	10000000000	N/m
kr_C	kr_C	10000000000	N/m
▼ ☐ Simulation parameter			
▼ ☐ Imposed wheel travel, rack displacement			
PIDskp	PIDs - proportio...	1000000	null
PIDski	PIDs - integral g...	100000	null
PIDskd	PIDs - derivative...	100000	null
▼ ☐ KnC Inputs			
flag_knc	flag for KnC dat...	0	null
Z	wheel vertical di...	0	m
Yn	steering rack dis...	0	m
Zopp	opposite wheel ...	0	m
Fx	imposed force at...	0	N
Fy	imposed force at...	0	N
Mz	imposed torque ...	0	Nm

Name	Xmodel	Ymodel	Zmodel	X	Y	Z	Description	Label
A	1.288	0.76	-0.25	1.288	0.76	-0.25	wheel centre	
B	1.3075	0.758	-0.375	1.3075	0.758	OA_z-0.125	contact patch	
D	1.305	0.6342	-0.30657	1.305	0.6342	-0.30657	spindle lower ball joint	
M	1.13858	0.66	-0.2725	1.13858	0.66	-0.2725	tie rod outer ball joint	
N	1.11294	0.045	-0.282	1.11294	0.045	-0.282	tie rod inner ball joint	
K	1.274	0.6158	-0.19071	1.274	0.6158	-0.19071	lower strut	
W	1.2861	0.885	-0.248	1.2861	OA_y+0.125	-0.248	camber adjust (on wheel rotation axis)	



Rugózott



8.Melléklet. A rugalmas (semleges) első felfüggesztés kimaradt adatai A vizsgált jellemző (Y) a fejlécben olvasható, a kerék függőleges irányú elmozdulása (X1), a kormányösszekötő elmozdulása (X2)

