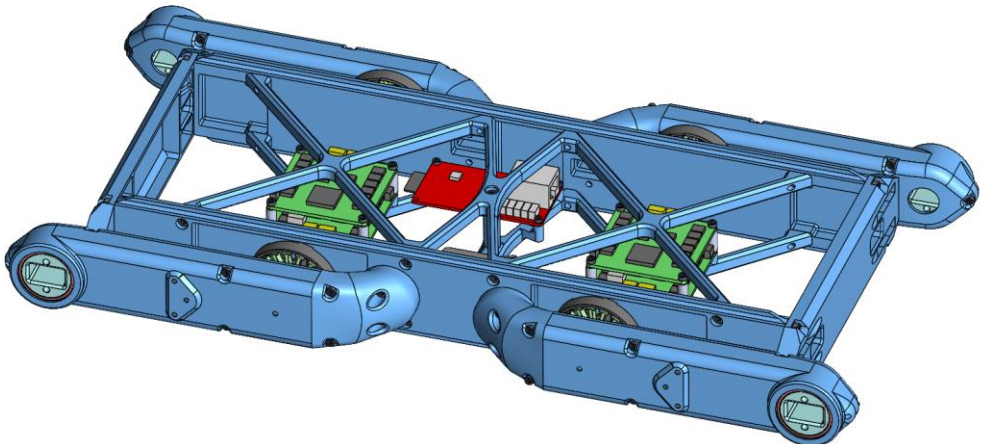
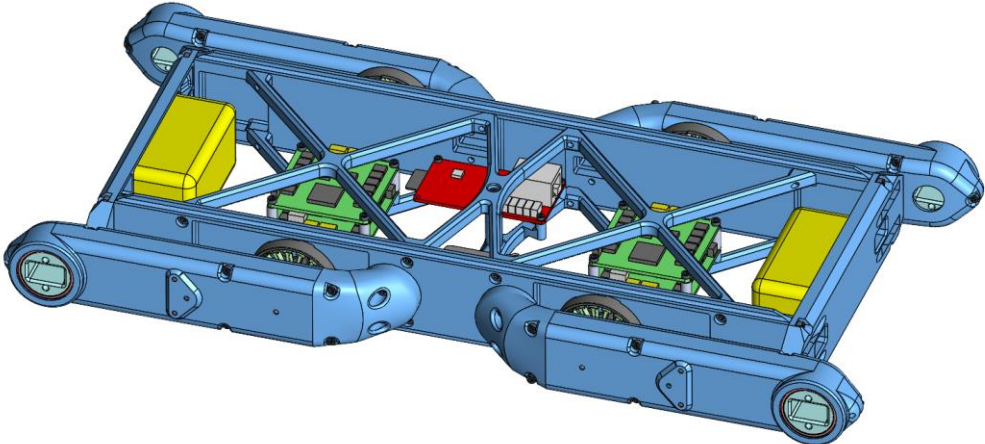
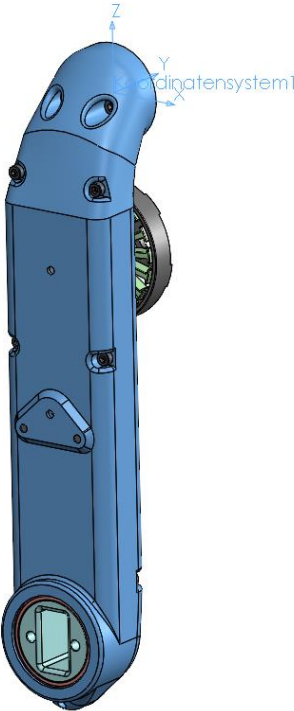
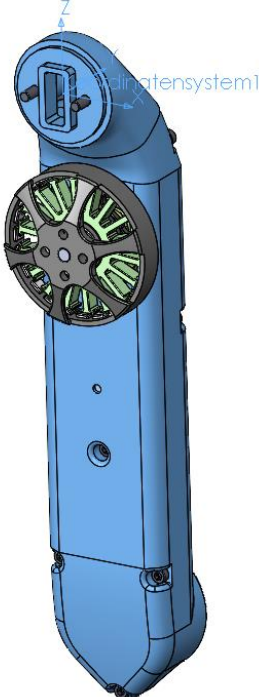


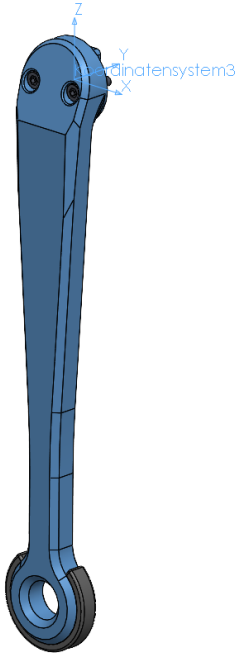
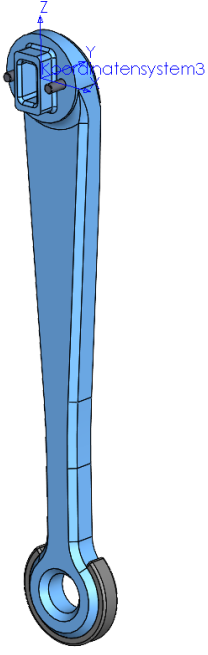
Quadruped Robot 8dof v2 Inertia Parameters

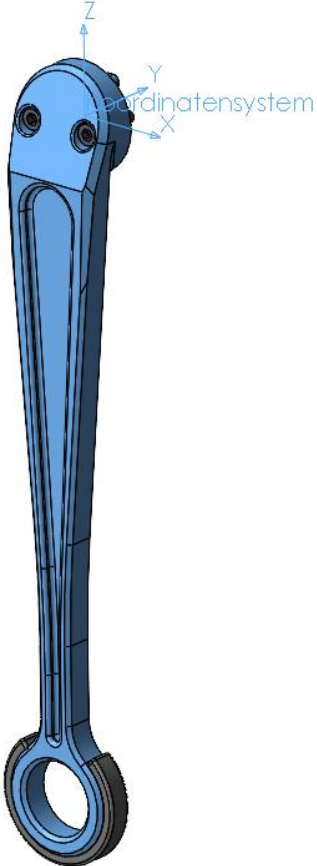
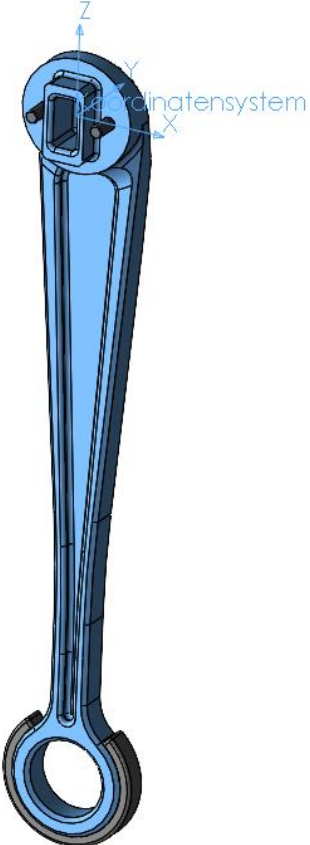
17.8.2022

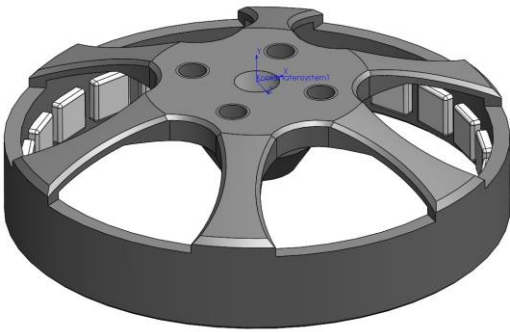
	Body without batteries
Mass [kg]	1.02195485
Center of Mass Position [m] with respect to the URDF coordinate system.	X = -0.00012331 Y = 0.00031510 Z = -0.00026969
Inertia [kg*m ²] with respect to the center of mass aligned to the URDF coordinate system.	Lxx = 0.00533767 Lxy = -0.00000516 Lxz = 0.00000122 Lyx = -0.00000516 Lyy = 0.01314118 Lyz = 0.00000061 Lzx = 0.00000122 Lzy = 0.00000061 Lzz = 0.01821833
Screenshot	 A 3D CAD model of a quadruped robot chassis, rendered in blue. The model shows a central body with four legs extending outwards. Each leg is composed of multiple segments connected by joints. The robot is shown from a perspective view, highlighting its symmetrical design and the arrangement of its legs.

	Body with batteries (2 x 100g)
Mass [kg]	1.22108401
Center of Mass Position [m] with respect to the URDF coordinate system.	X = -0.00010320 Y = 0.00026372 Z = -0.00022571
Inertia [kg*m ²] with respect to the center of mass aligned to the URDF coordinate system.	Lxx = 0.00544046 Lxy = -0.00000517 Lxz = 0.00000122 Lyx = -0.00000517 Lyy = 0.01812777 Lyz = 0.00000059 Lzx = 0.00000122 Lzy = 0.00000059 Lzz = 0.02326265
Screenshot	

	Upper Leg Module Right Side	Upper Module Leg Left Side
Mass [kg]	0.14737324	0.14737324
Center of Mass Position [m] with respect to the URDF coordinate system.	X = -0.00001530 Y = -0.01767640 Z = -0.07838230	X = 0.00001530 Y = 0.01767640 Z = -0.07838230
Inertia [kg*m ²] with respect to the center of mass aligned to the URDF coordinate system.	Lxx = 0.00041540 Lxy = 0.00000000 Lxz = -0.00000010 Lyx = 0.00000000 Lyy = 0.00041637 Lyz = 0.00004589 Lzx = -0.00000010 Lzy = 0.00004589 Lzz = 0.00002982	Lxx = 0.00041540 Lxy = 0.00000000 Lxz = 0.00000010 Lyx = 0.00000000 Lyy = 0.00041637 Lyz = -0.00004589 Lzx = 0.00000010 Lzy = -0.00004589 Lzz = 0.00002982
Screenshot	 A 3D CAD model of the 'Upper Leg Module Right Side'. The model is primarily blue with some black and green components. It features a vertical main body, a circular green wheel-like structure in the middle, and a top section with two circular openings. A coordinate system is shown at the top with Z pointing up, Y pointing right, and X pointing left.	 A 3D CAD model of the 'Upper Module Leg Left Side'. It is similar in design to the right side but with a different internal structure for the wheel, which is also green. The coordinate system at the top shows Z pointing up, Y pointing left, and X pointing right.

	Lower Leg v2 Right Side	Lower Leg v2 Left Side
Mass [kg]	0.02318294	0.02318294
Center of Mass Position [m] with respect to the URDF coordinate system.	X = 0.00000000 Y = -0.00776716 Z = -0.07003876	X = 0.00000000 Y = 0.00776716 Z = -0.07003876
Inertia [kg*m ²] with respect to the center of mass aligned to the URDF coordinate system.	Lxx = 0.00008508 Lxy = 0.00000000 Lxz = 0.00000000 Lyx = 0.00000000 Lyy = 0.00008580 Lyz = 0.00000200 Lzx = 0.00000000 Lzy = 0.00000200 Lzz = 0.00000139	Lxx = 0.00008508 Lxy = 0.00000000 Lxz = 0.00000000 Lyx = 0.00000000 Lyy = 0.00008580 Lyz = -0.00000200 Lzx = 0.00000000 Lzy = -0.00000200 Lzz = 0.00000139
Screenshot		

	Lower Leg v3 Right Side	Lower Leg v3 Left Side
Mass [kg]	0.02426237	0.02426237
Center of Mass Position [m] with respect to the URDF coordinate system.	X = 0.00000000 Y = -0.00794521 Z = -0.05882309	X = 0.00000000 Y = 0.00794521 Z = -0.05882309
Inertia [kg*m ²] with respect to the center of mass aligned to the URDF coordinate system.	Lxx = 0.00008841 Lxy = 0.00000000 Lxz = 0.00000000 Lyx = 0.00000000 Lyy = 0.00008916 Lyz = 0.00000292 Lzx = 0.00000000 Lzy = 0.00000292 Lzz = 0.00000155	Lxx = 0.00008841 Lxy = 0.00000000 Lxz = 0.00000000 Lyx = 0.00000000 Lyy = 0.00008916 Lyz = -0.00000292 Lzx = 0.00000000 Lzy = -0.00000292 Lzz = 0.00000155
Screenshot		

Motor Rotor Antigravity 4004	Inertia [kg*m²]
	<p>$L_{xx} = 0.00000245$ $L_{xy} = 0.00000000$ $L_{xz} = 0.00000000$ $L_{yx} = 0.00000000$ $L_{yy} = 0.00000447$ $L_{yz} = 0.00000000$ $L_{zx} = 0.00000000$ $L_{zy} = 0.00000000$ $L_{zz} = 0.00000245$</p> <p>The reflected inertia at the output joint is 81 times higher compared to the inertia of the motor rotor. For rotation around the motor axis only the L_{yy} value should be relevant.</p>