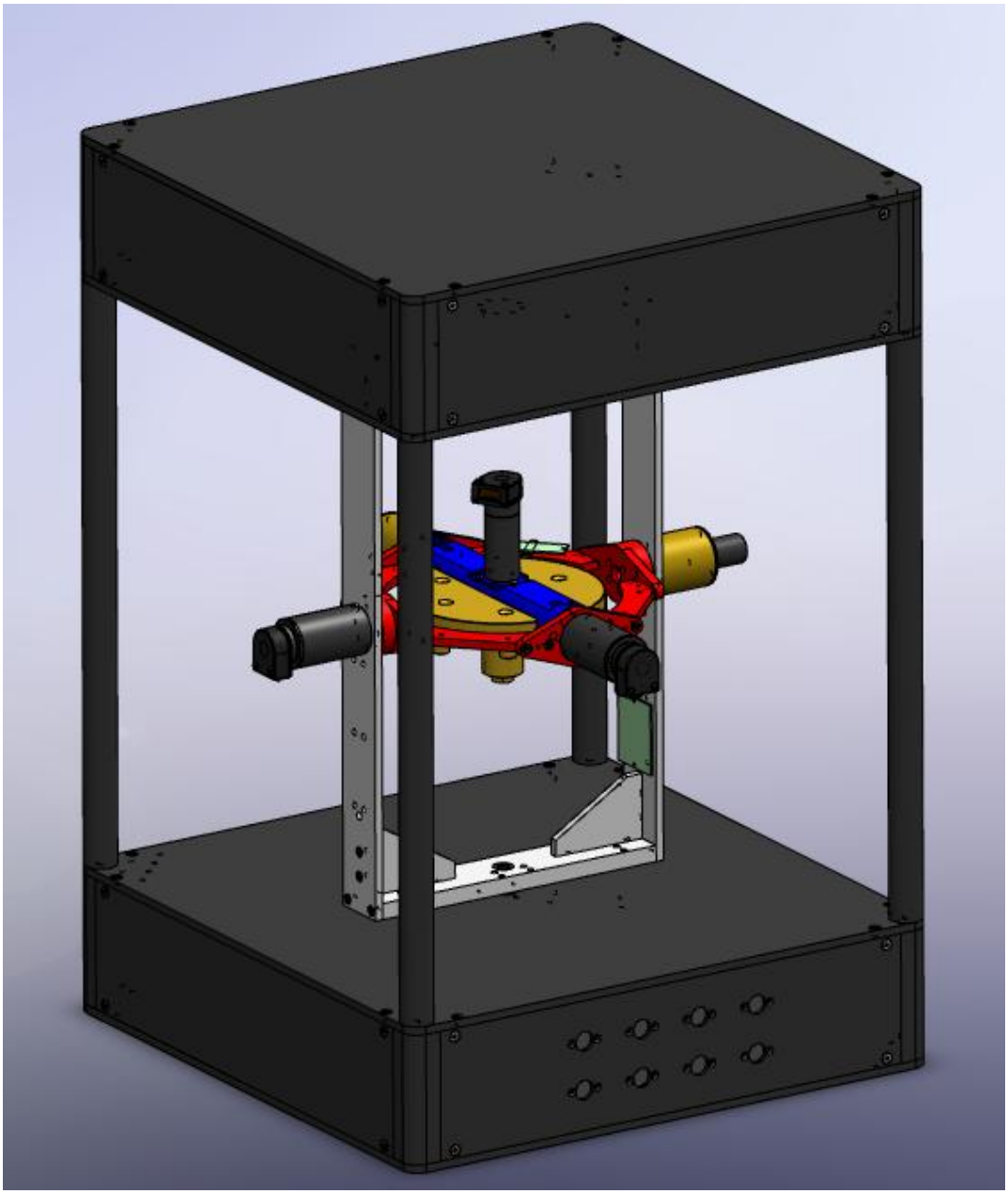
Assumptions

The mass moment of inertia of an axis depends on the orientation of the axes within it. Therefore, all mass moment of inertia data provided is taken from the 'home' configuration of the system.

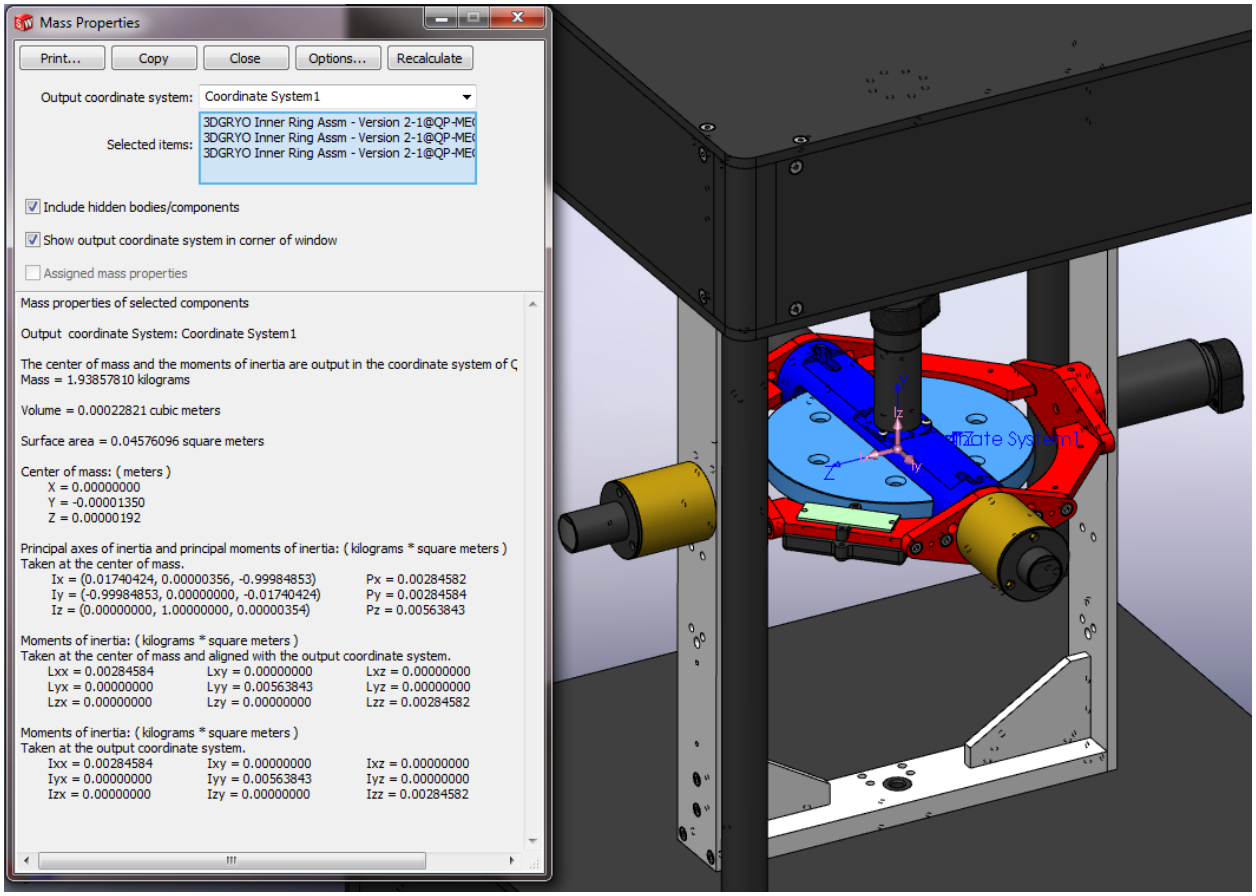
System Definition

The 'home' configuration of the 3D Gyro is shown below.



Flywheel Axis

J = 0.00563843 kg*m^2



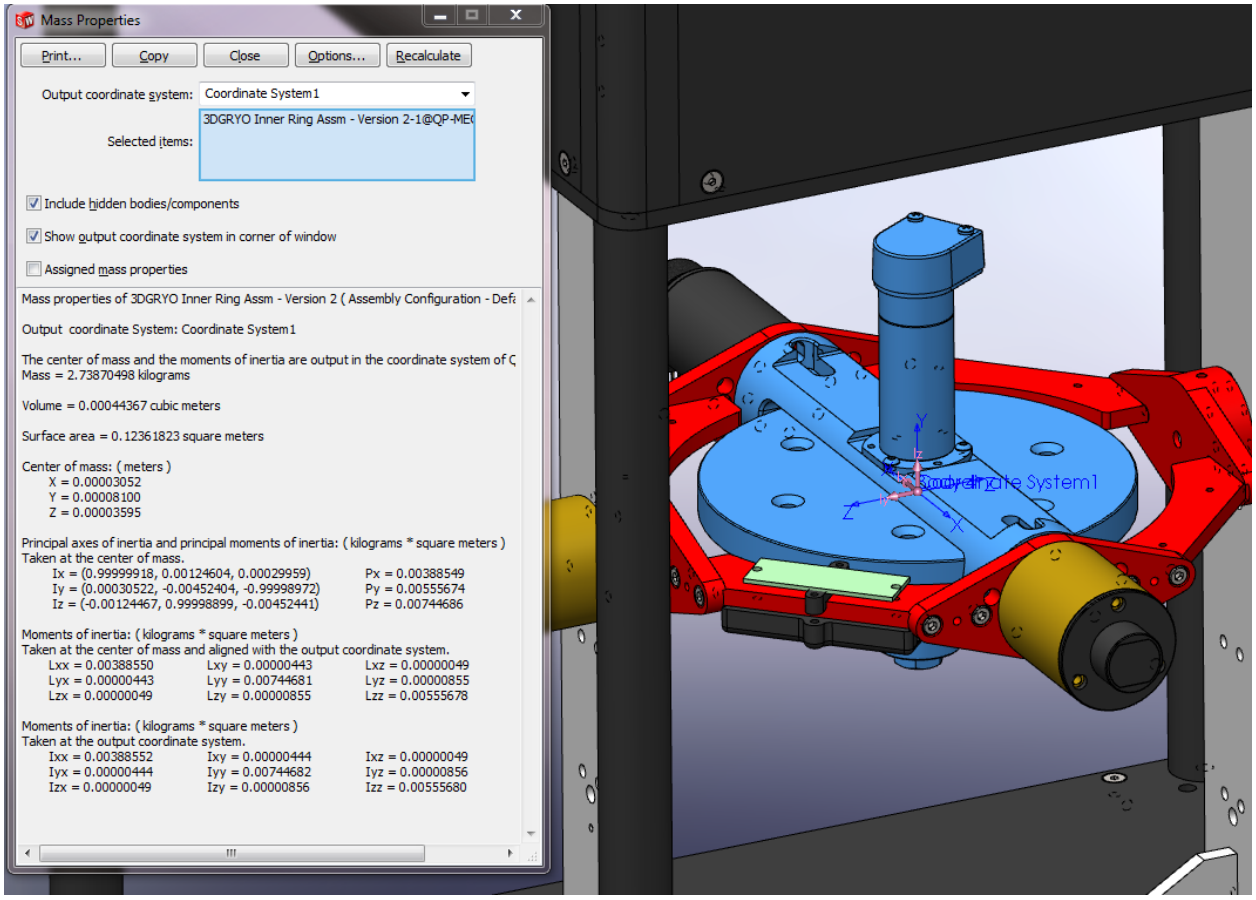
Moments of inertia: (kilograms * square meters)

Taken at the output coordinate system.

Ixx = 0.00284584	Ixy = 0.00000000	Ixz = 0.00000000
Iyx = 0.00000000	Iyy = 0.00563843	Iyz = 0.00000000
Izx = 0.00000000	Izy = 0.00000000	Izz = 0.00284582

Blue Axis

J = 0.00388552 kg*m^2



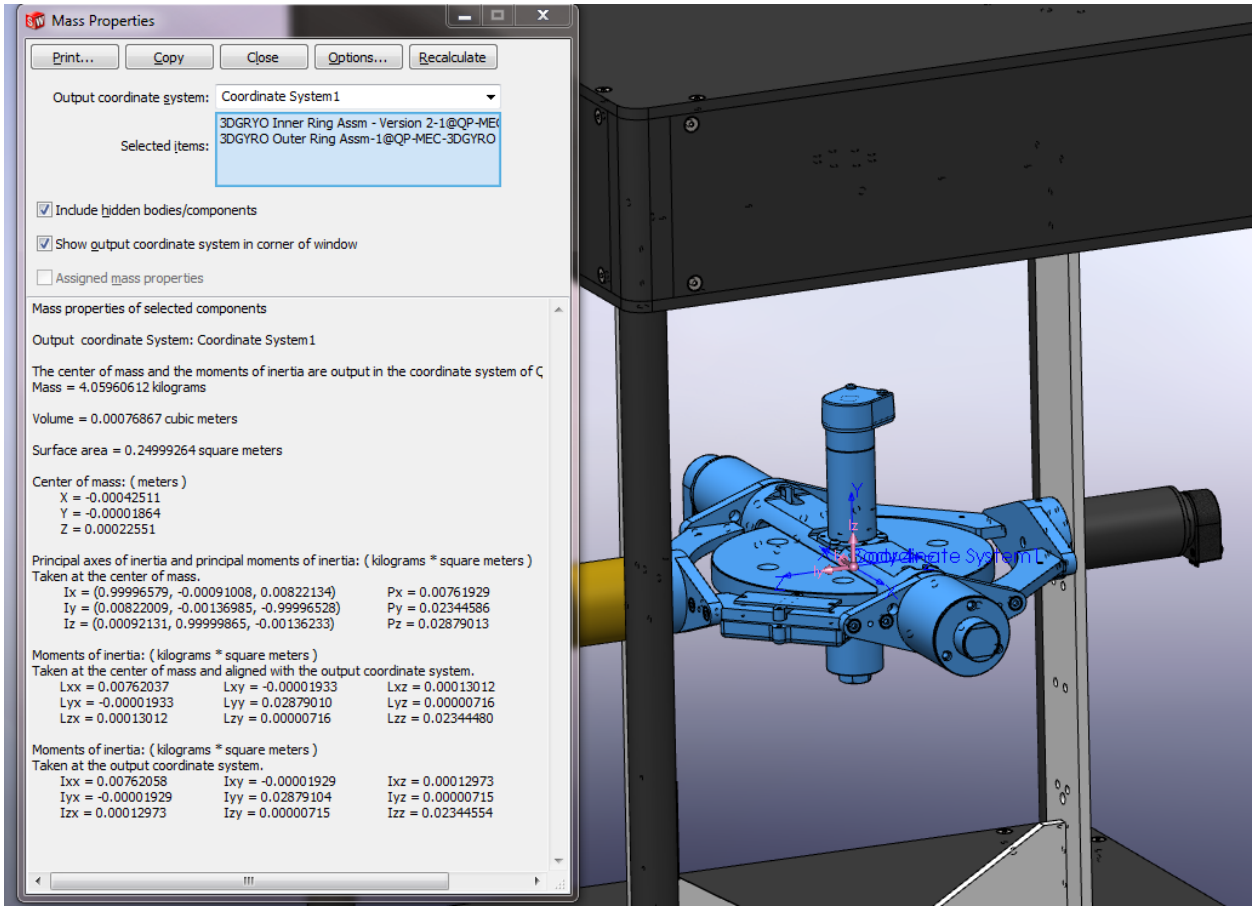
Moments of inertia: (kilograms * square meters)

Taken at the output coordinate system.

Ixx = 0.00388552	Ixy = 0.00000444	Ixz = 0.00000049
Iyx = 0.00000444	Iyy = 0.00744682	Iyz = 0.00000856
Izx = 0.00000049	Izy = 0.00000856	Izz = 0.00555680

Red Axis

J = 0.02344554 kg*m^2



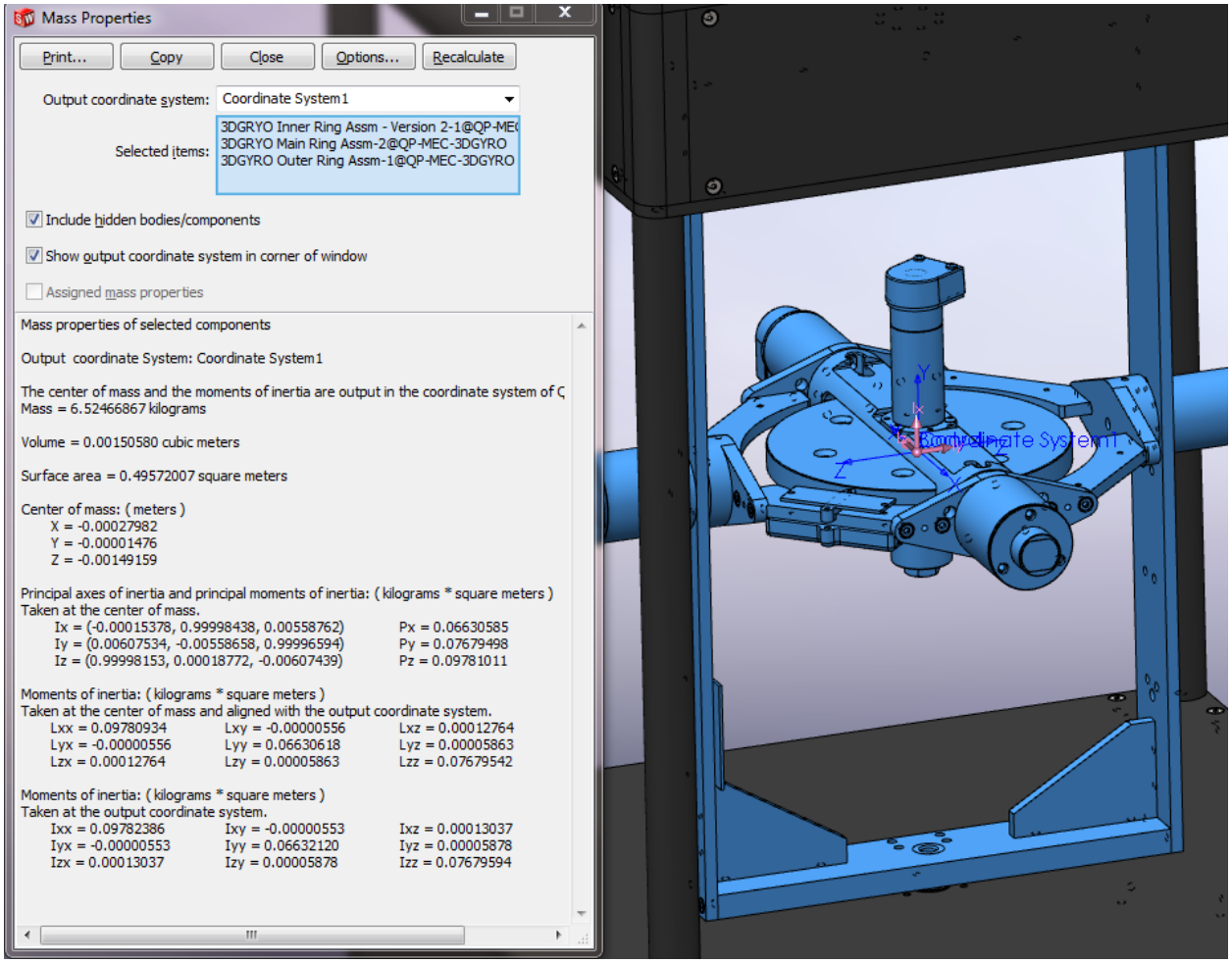
Moments of inertia: (kilograms * square meters)

Taken at the output coordinate system.

Ixx = 0.00762058	Ixy = -0.00001929	Ixz = 0.00012973
Iyx = -0.00001929	Iyy = 0.02879104	Iyz = 0.00000715
Izx = 0.00012973	Izy = 0.00000715	Izz = 0.02344554

Silver Axis

J = 0.06632120 kg*m^2



Moments of inertia: (kilograms * square meters)

Taken at the output coordinate system.

Ixx = 0.09782386	Ixy = -0.00000553	Ixz = 0.00013037
Iyx = -0.00000553	Iyy = 0.06632120	Iyz = 0.00005878
Izx = 0.00013037	Izy = 0.00005878	Izz = 0.07679594