

Magnetic suspended

Gyroscopic sensor

Control Engineering Laboratory

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Introduction

Gyroscopic sensor is to measure angular velocity.

Application



Camera



Robot



Plane



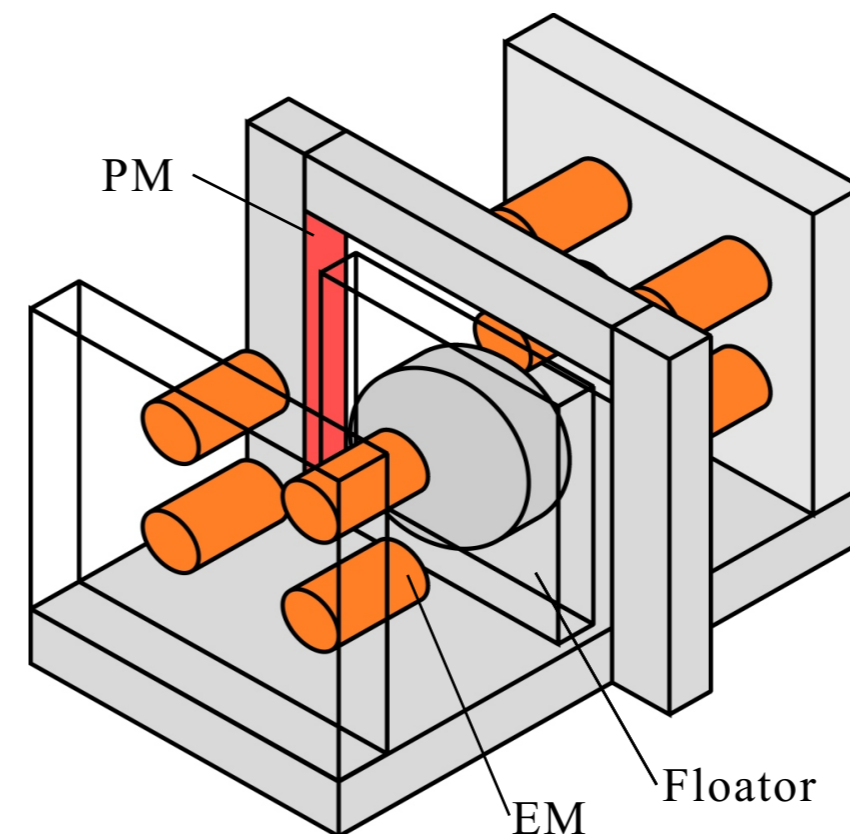
Large field which can be applied

Demands to Gyroscopic sensor

smaller, precicer, lower cost

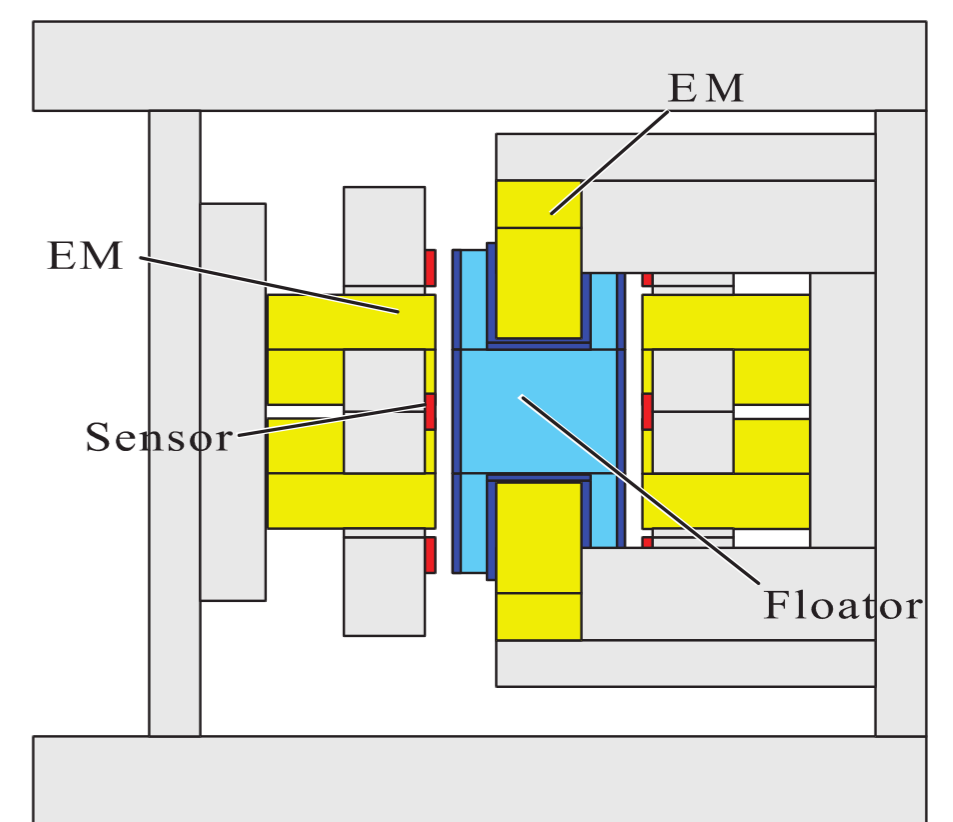
Multi-DOF MSG

3-DOF



Using electro-magnet and Permanent magnet

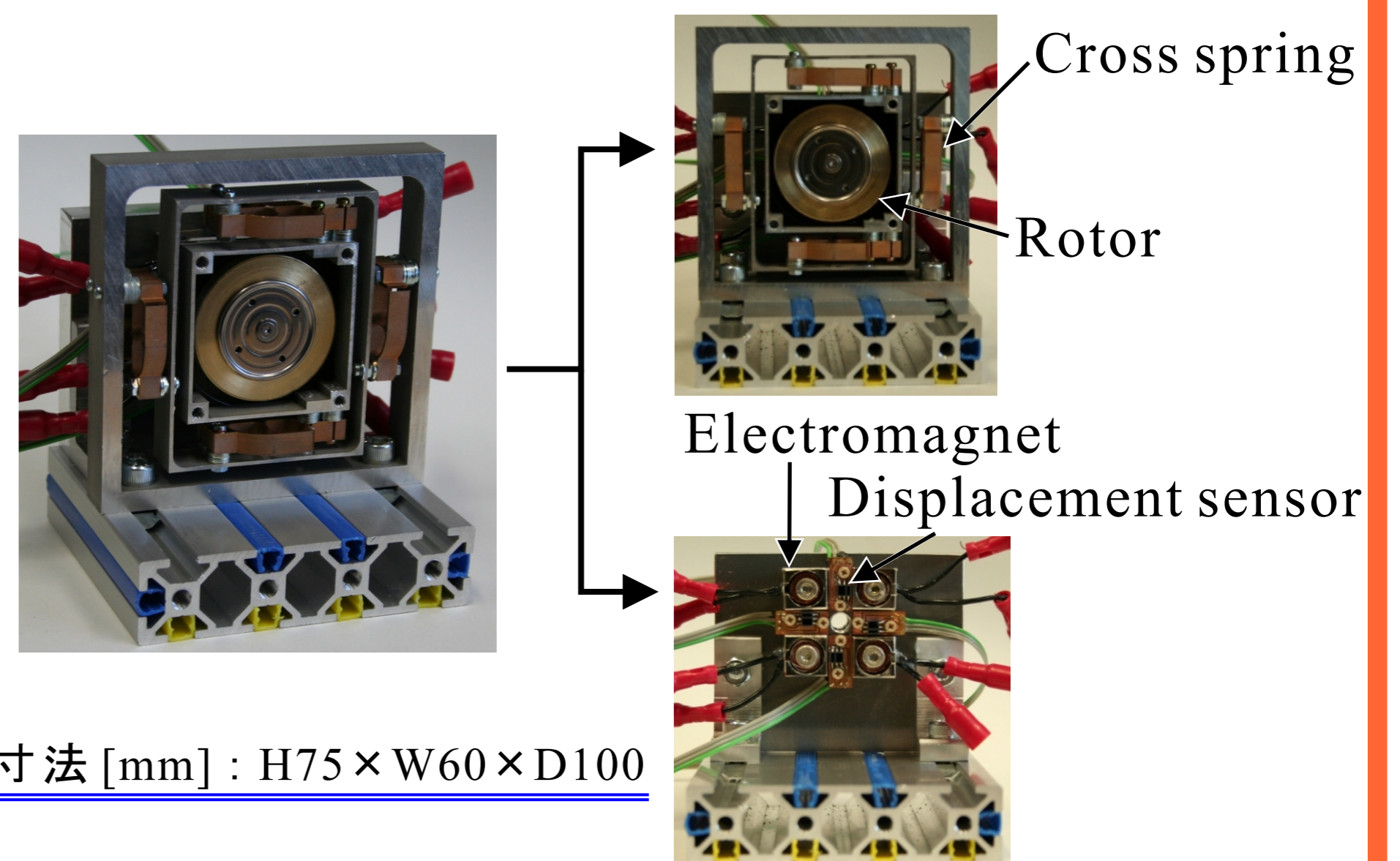
6-DOF



Only electro-magnets control 6-DOF.

Smaller MSG

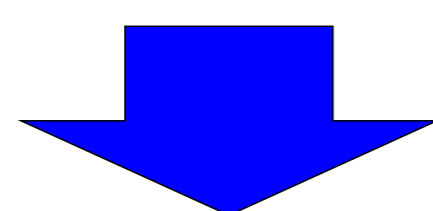
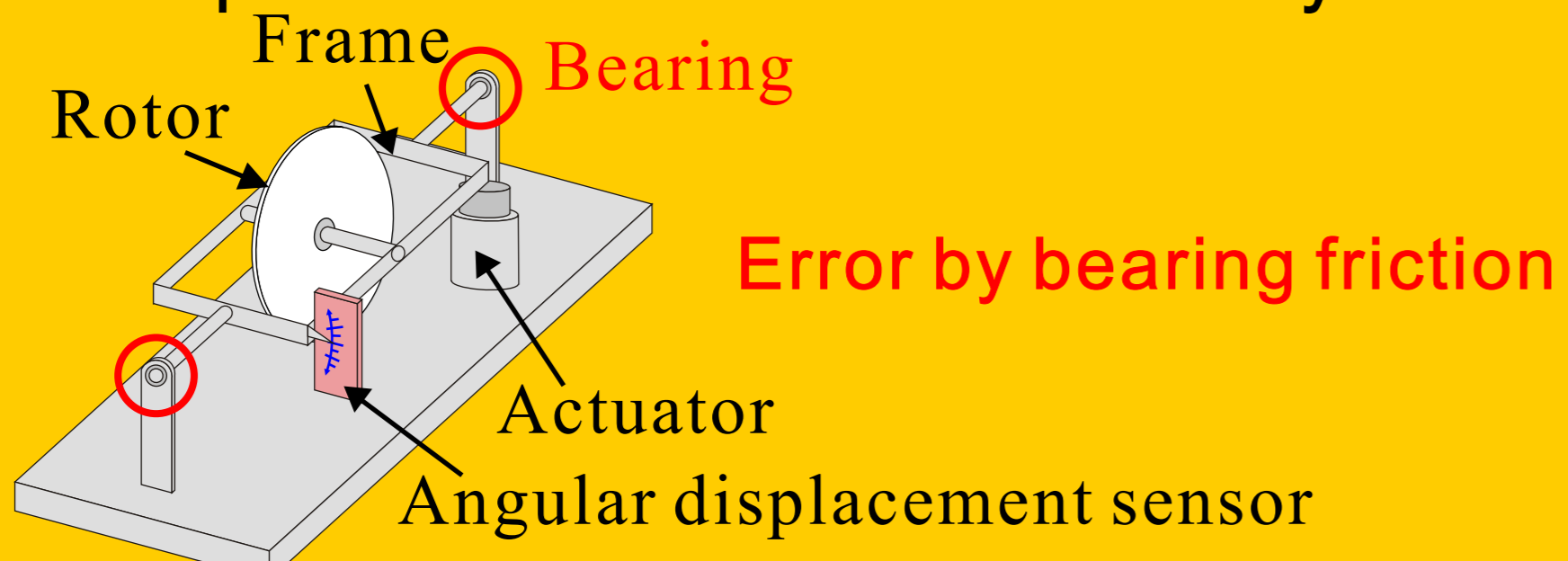
The flange attached the rotor is restrict by gimbal and cross spring in 2-DOF. Electromagnets are used as actuators.



寸法 [mm] : H75 × W60 × D100

Experimental apparatus

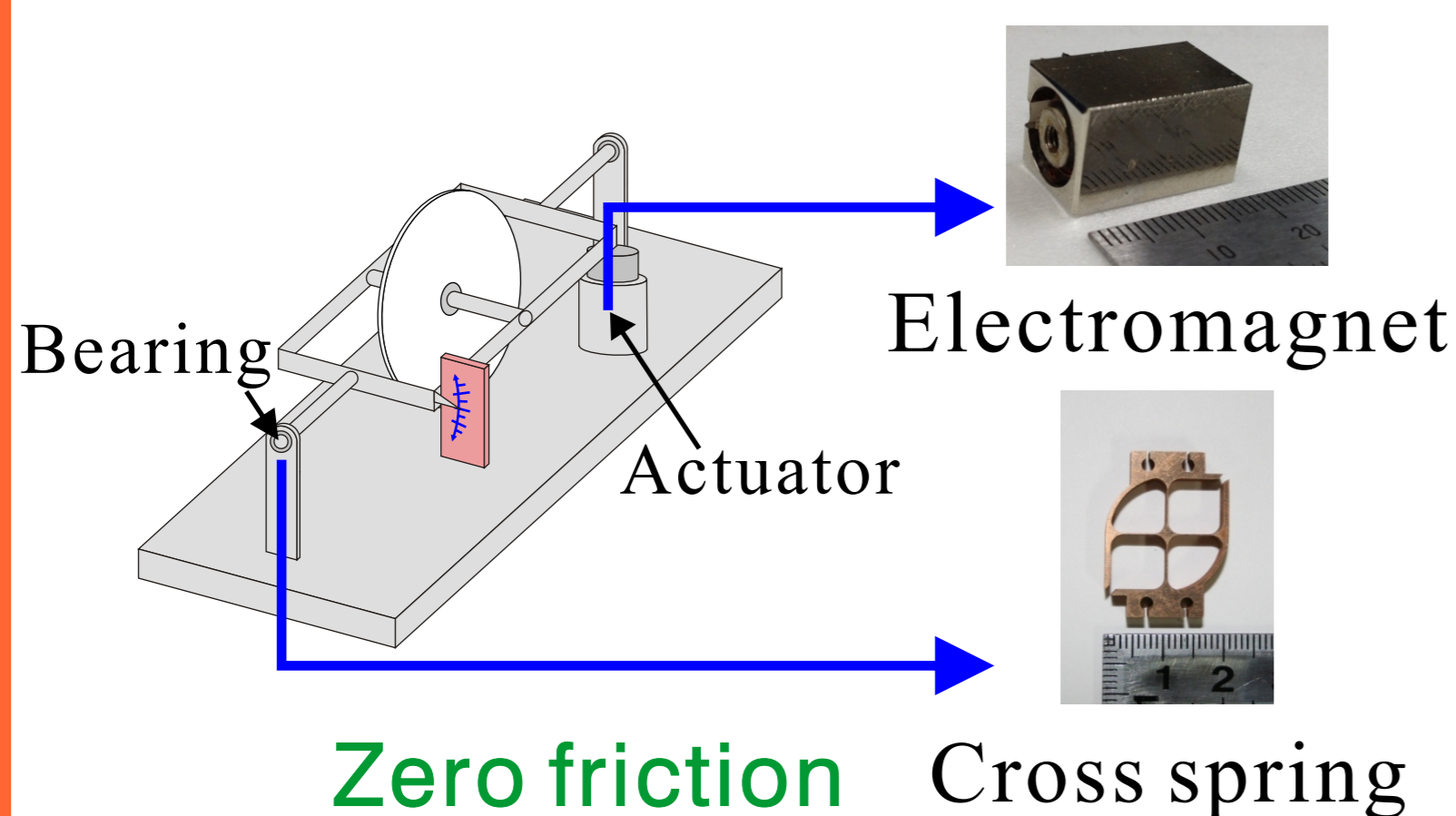
The problem of mechanical Gyro



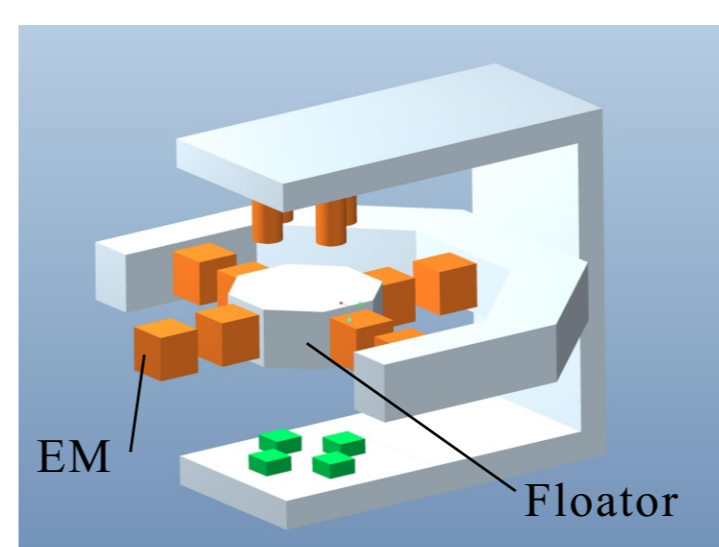
Solving the problem

Using magnetic suspension and cross spring

Non contact



Future plan



applying non contact power transfer to the floator