

REMAV: Remote Eye for Micro Aerial Vehicles

“Allowing human-MAV collaboration in industrial and commercial work environments thanks to an accurate and precise position and speed control based on a bio-inspired visual speed sensor”

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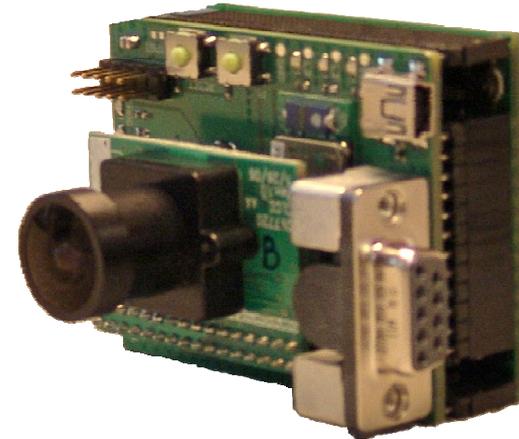
Experiment Main Components

CoaxEye Helicopter (Skybotix)



- Indoor applications
- Inertial Measurement Unit (IMU)
- Pressure sensor (altitude)
- Remote control (2.4 GHz)
- Span: 340 mm
- Height: 274 mm
- Weight: 280 - 320 g
- Autonomy: up to 20 min

Visual Speed Sensor (ViSSee) 1st prototype



- Bio-inspired visual speed sensor
- Speed accuracy: $\pm 0.2\%$ FS
- Size: 65 x 48 x 61 mm³
- Weight: 130 g
- Power consumption: 500 mW
- No integrative drift

Experiment Main Goals

- Design a miniature visual speed sensor specially conceived for MAV applications (low weight, low power, low size, etc.)
- Measure speed and position of MAVs with high accuracy and precision
- Integrate the visual speed sensor with the other sensors (pressure, inertial, etc.) available in the CoaxEye helicopter
- Improve the collision avoidance capability of MAVs
- Possible experiment scenarios
 - 1 MAV alone / 2 MAVs moving in the same room
 - No obstacles / fixed obstacles
 - Moving obstacles (for example, people)
- Industrial/Commercial application scenarios
 - Shopping centers
 - Storages/logistic centers
 - Light industrial environments (for example, mass-customization industry)