

Convocatòria de lliurament del PFC  
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Titulació:  
**Enginyeria Aeronàutica**

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**Estudi del control de trajectòria d'un UAV multirotor amb RoboticOperating System (ROS)**

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Contingut d'aquest volum: **-ANNEXOS-**

## ANNEX A. TIPOS DE MISSATGES UTILITZATS

### Statestimation.msg:

```
# constants
uint32 PTAM_IDLE = 0           # PTAM not running.
uint32 PTAM_INITIALIZING = 1  # initialization (trails)
uint32 PTAM_LOST = 2          # ptam is running, but lost
uint32 PTAM_GOOD = 3         # tracking quality OK
uint32 PTAM_BEST = 4          # tracking quality best
uint32 PTAM_TOOKKF = 5        # just took a new KF (equivalent to
PTAM_BEST)
uint32 PTAM_FALSEPOSITIVE = 6
Header      header
# ----- raw 10d filter state -----
--
float32     x
float32     y
float32     z
float32     dx
float32     dy
float32     dz
float32     roll
float32     pitch
float32     yaw
float32     dyaw

# ----- other values -----
float32     scale              # ptam scale factor (PTAMpos * scale =
WORLDpos).
uint32      ptamState
float32     scaleAccuracy # if scale is very inaccurate, this is
about 0.5, and grows up to 1 (=very accurate).

# ----- propagated from drone messages: -----
--
# 0: Unknown, 1: Init, 2: Landed, 3: Flying, 4: Hovering, 5: Test
# 6: Taking off, 7: Goto Fix Point, 8: Landing, 9: Looping
uint32      droneState
float32     batteryPercent    # 0 means no battery, 100 means full
battery
```

## Ardrone\_Imu.msg:

```
std_msgs/Header header
  uint32 seq
  time stamp
  string frame_id
geometry_msgs/Quaternion orientation
  float64 x
  float64 y
  float64 z
  float64 w
float64[9] orientation_covariance
geometry_msgs/Vector3 angular_velocity
  float64 x
  float64 y
  float64 z
float64[9] angular_velocity_covariance
geometry_msgs/Vector3 linear_acceleration
  float64 x
  float64 y
  float64 z
float64[9] linear_acceleration_covariance

% l'objecte de matlab message (de tipus sensor_msgs/Imu) te les
% següents comandes de consulta:

% message.getInstance
% message.getHeader
% message.getAngularVelocity
% message.getOrientation
% message.getLinearAcceleration
% message.getAngularVelocityCovariance
% message.getOrientationCovariance
% message.getLinearAccelerationCovariance

% message.getClass
% message.getInvocationHandler
% message.getProxyClass
```