Supervisor meeting

Wednesday, 22th of February of 2017

Comments on the model

- If you rotate slow and drive slow - off diagonal elements in the damping matrix are not that relevant. The same happens with the Coriolis-Centripetal matrix. We should just state clear that we are aware of them and why we do not consider them.
- Although the off-diagonal elements might be bigger, they occur in axes with low speeds.
- How to interpret the Coriolis effect: It is related to rigid body movement. An object will always rotate around the axis with most inertia or the axes with least inertia. Anything in the middle makes it swing because the object wants to rotate in one of the other axes so the rotation is "unstable".
- Ideally the boat inertia is symmetric so nothing happens but practically there is some imbalance due to mass distribution. As the speeds are low, we can ignore the Coriolis effect.
- Added mass: We should take it into account but maybe at low speeds it is not important. We need confirmation of this fact.

GPS

- The variation of the GPS is large, but maybe it needs more time. It could also be that it was just beside the building, that could be the problem. Specially when the building is south of the boat.
- If you have raw data, you also get the precision on the estimation, so you could vary your weights in the Kalman filter according to that confidence.
- We could also get an RTK GPS.

Batteries

- Simon order charging cables because we could not find them.
- Batteries: Simon had some but they have less that half the capacity, they may not be enough for a final test.
- We will order some new batteries.

Comments on the document

- It is a good idea to note what the rotation matrices do: Including b and n in the notation, for example.
- Put references for the rotation convention and to the use of the NED frame.
- Does the force of the propellers affect the y body axis?
- Normally for references you use [p17,1] in the references, rather than referencing the same book several times.

Miscellaneous

- Make a plan with milestones.

Next Supervisor Meeting

Wednesday, 1st of March at 13:00