Ocean exploration with robots

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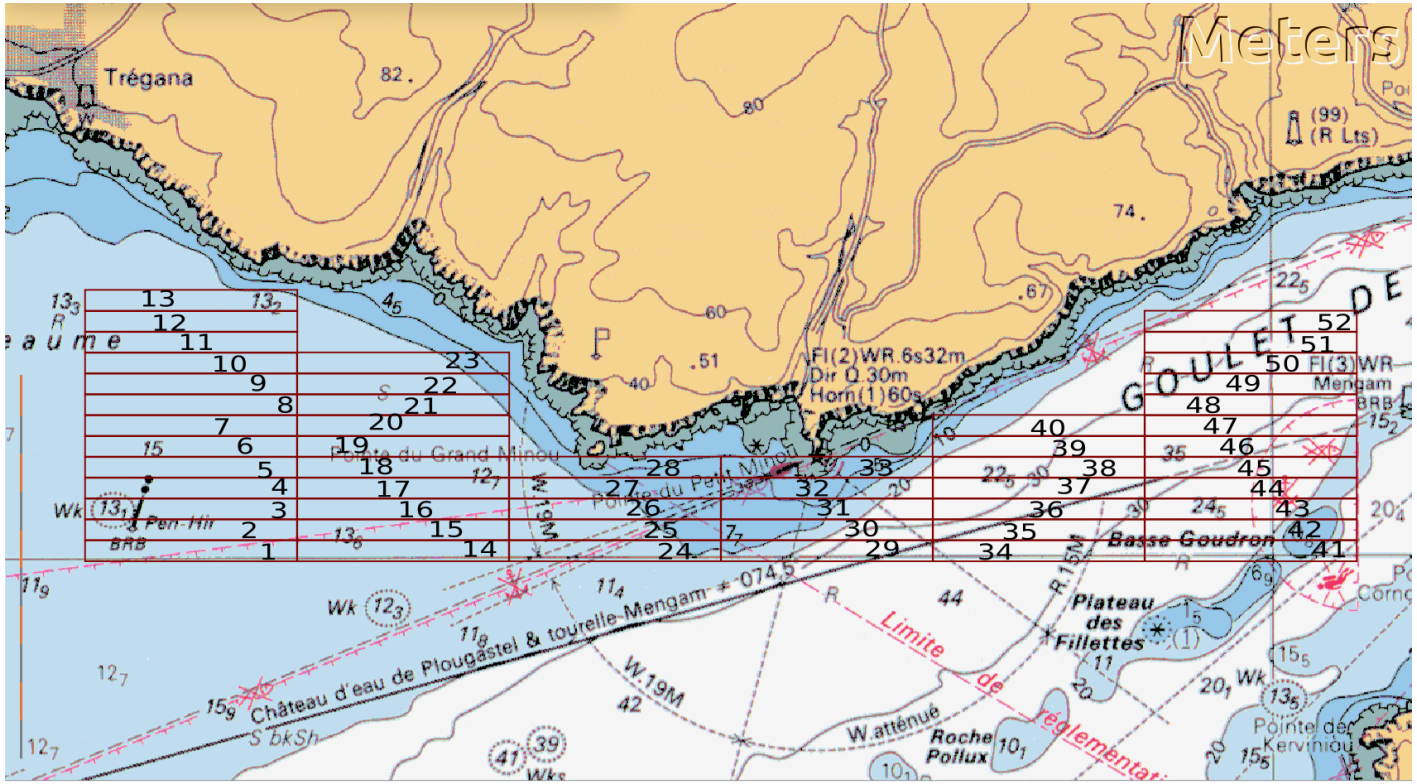
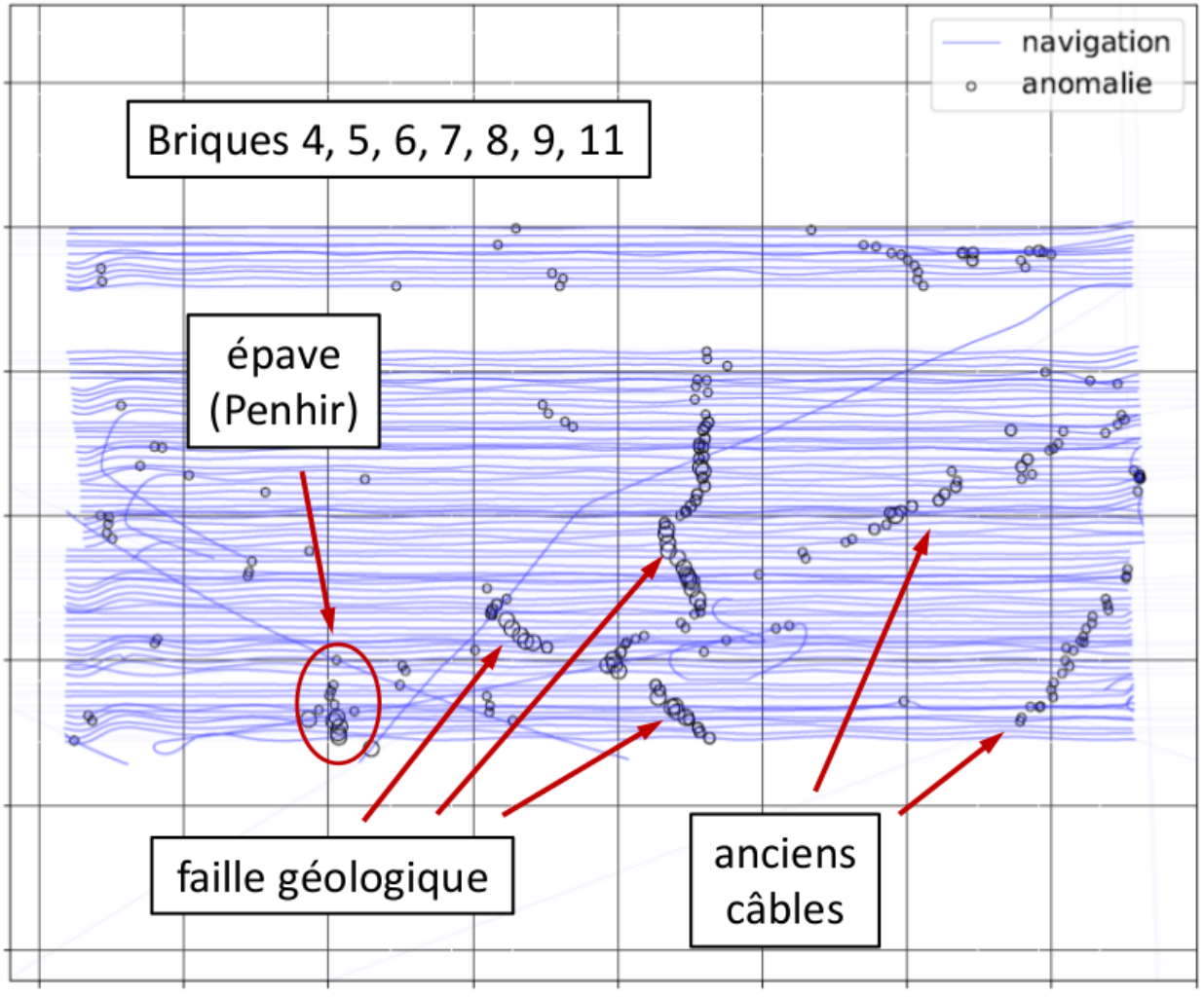
Visite Thomas Sousselier

1. Marine robots to build maps

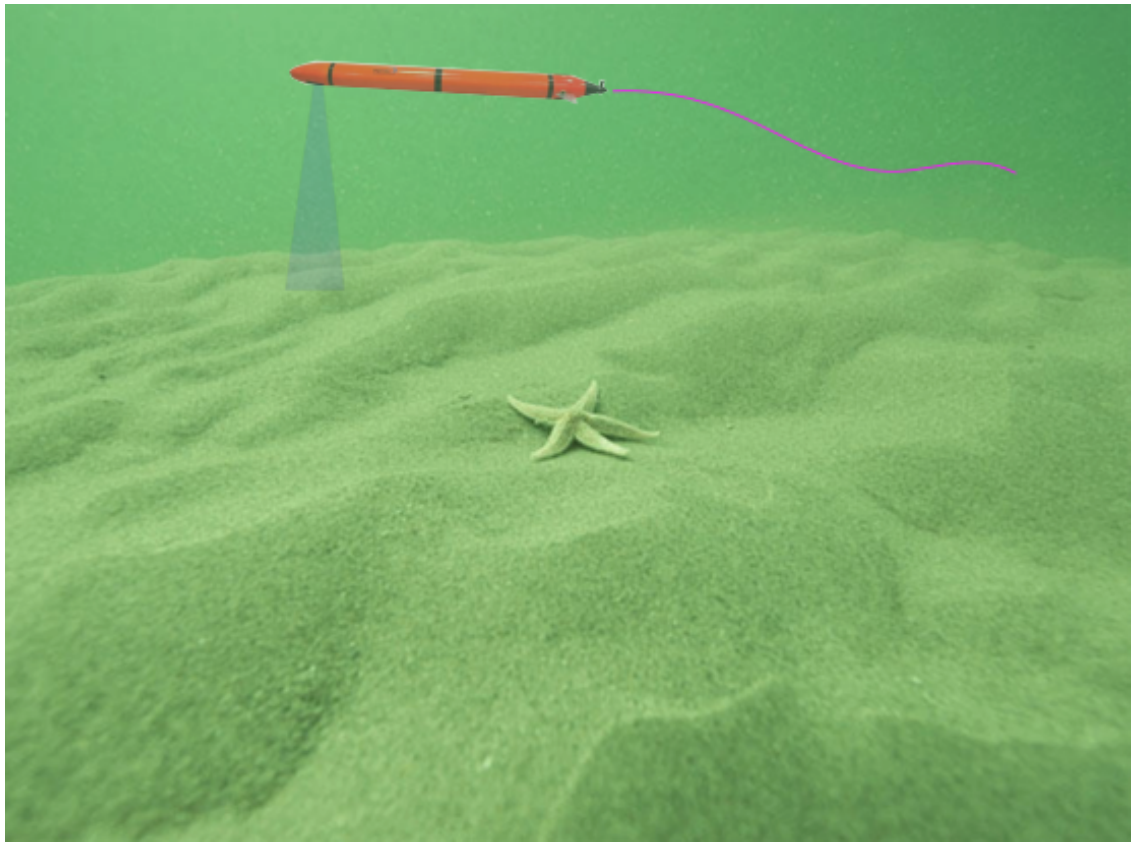

Meters
Trégana
Fl(2)WR.6s32m
Dir Q.30m
Horn(1)60s
Basse Goudron
Plateau des Fillettes
Roche Pollux
Château d'eau de Plougastel & tourelle-Mengam
Limite de réglementa
Pointe du Grand Minou
Pointe du Petit Minou
Pointe de Kerviniou
GOULET DE

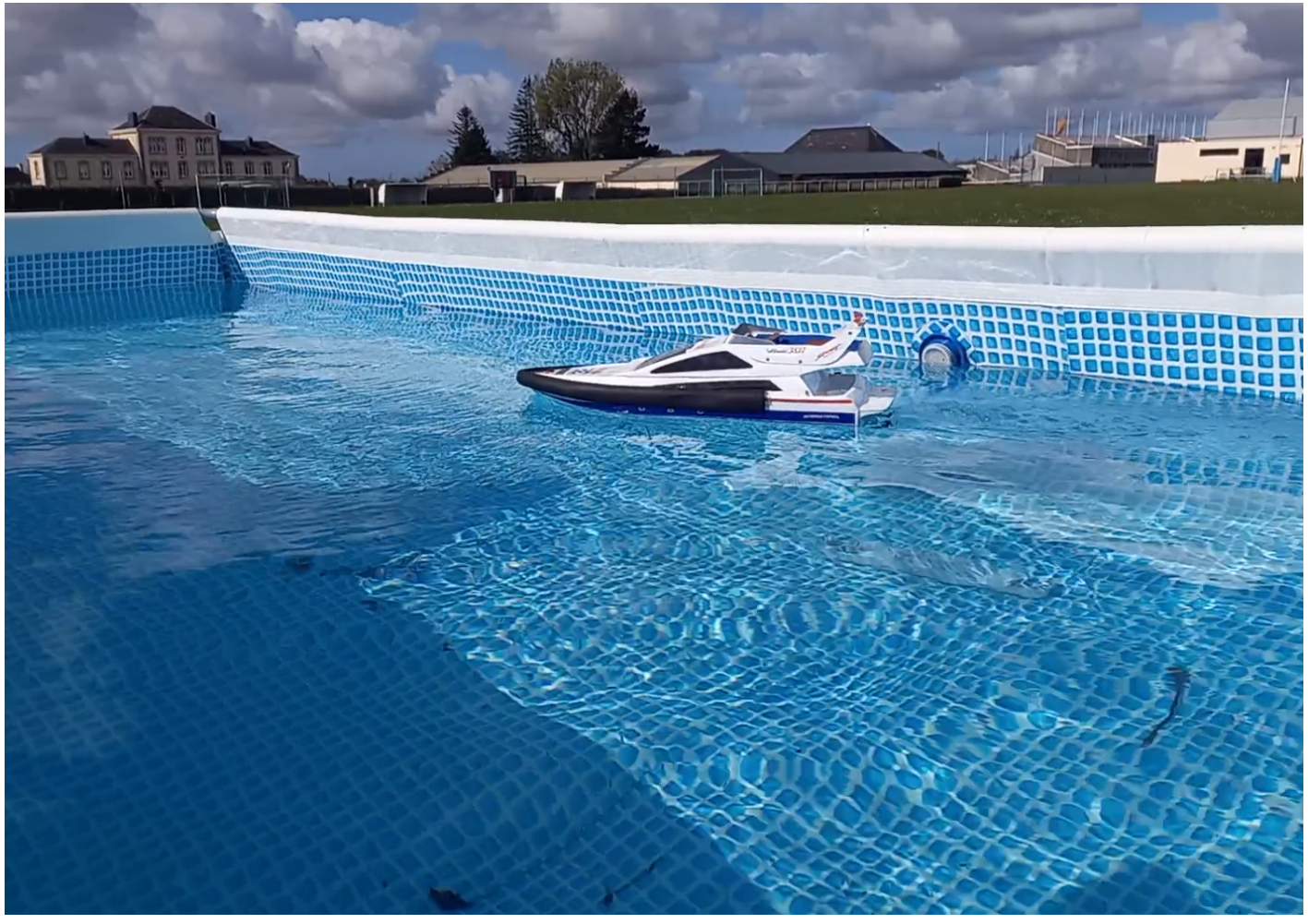


Magnetic map built in 2018

2. Cycle-based navigation

Submeeting 2018





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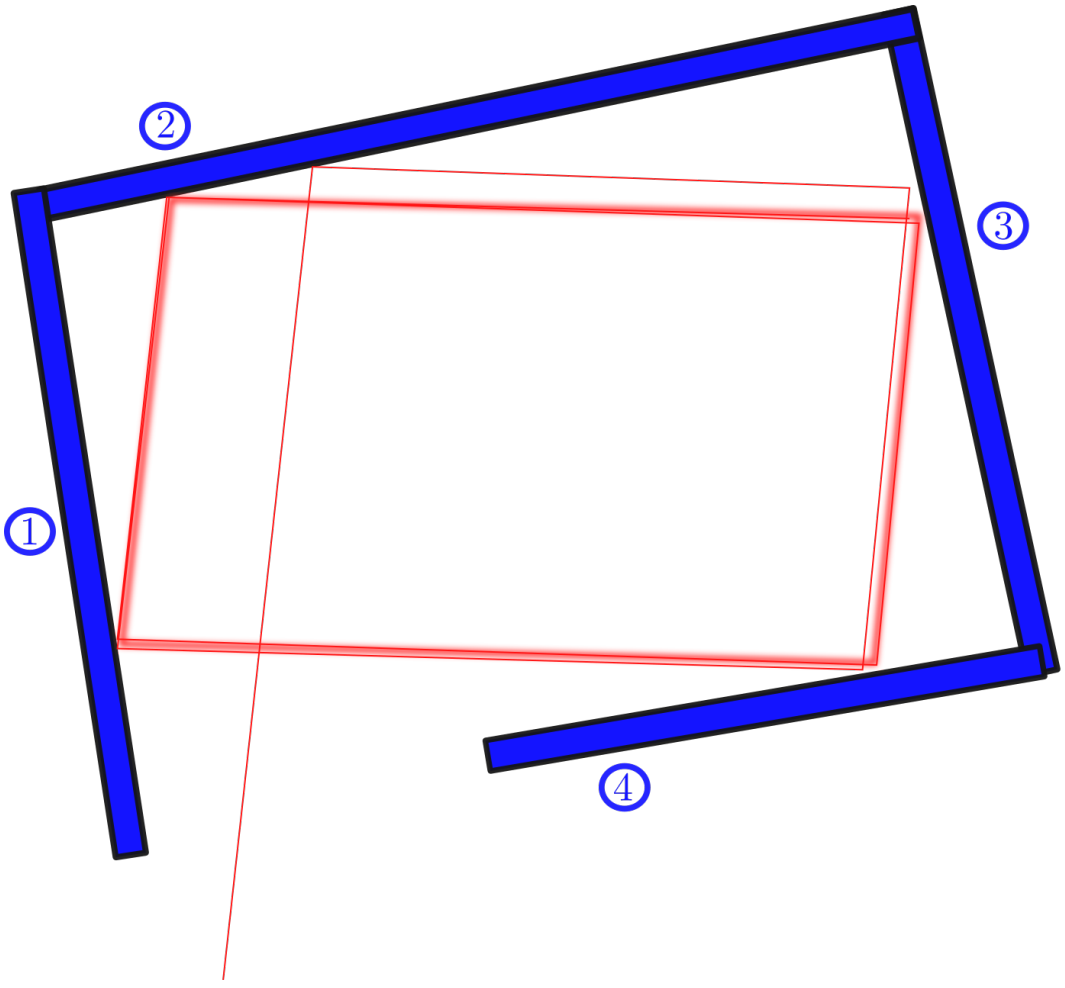
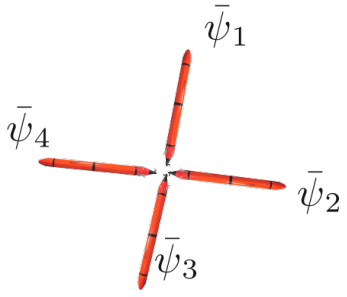




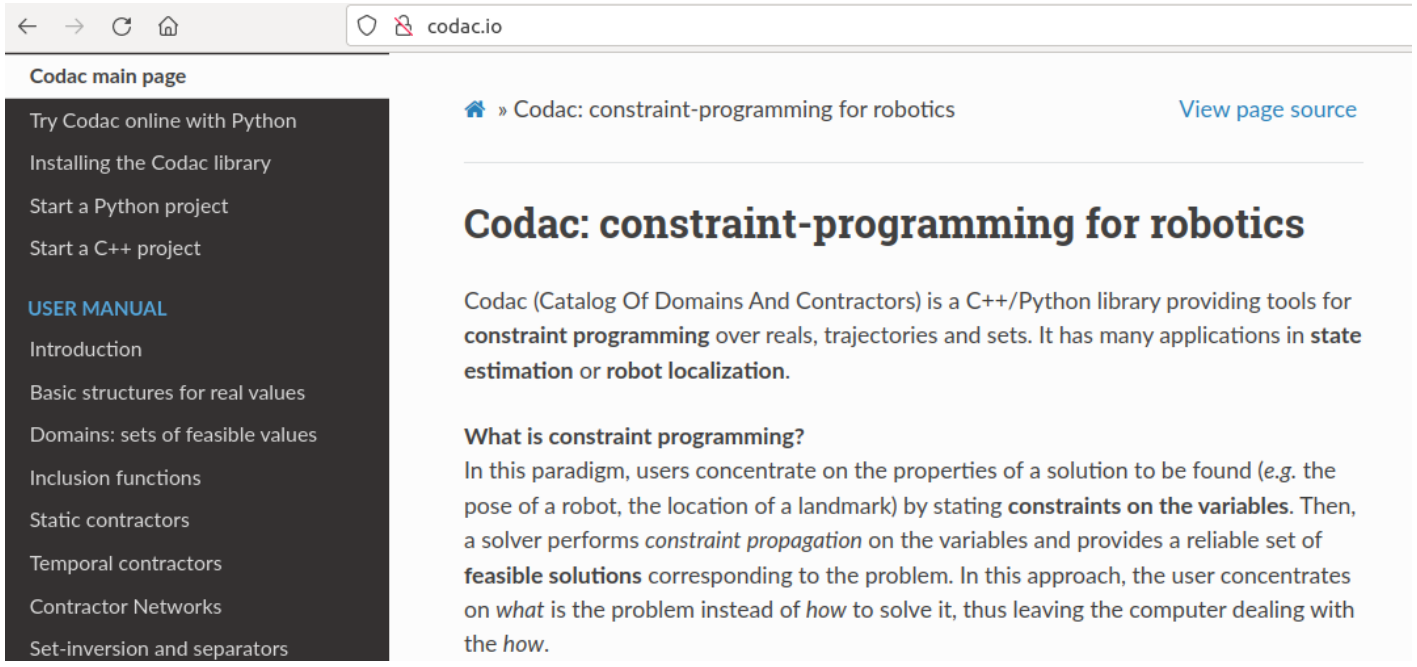
Find the route without GPS, compass and clock

3. Tools for validation

Given

$$\begin{cases} \dot{\mathbf{x}} = \mathbf{f}(\mathbf{x}) \\ \mathbf{x}_0 \in [\mathbf{x}_0] \end{cases}$$

Interval methods allow us to find an envelope for $\mathbf{x}(t)$.



An interval based library for verification in robotics