

Ocean exploration with underwater robots

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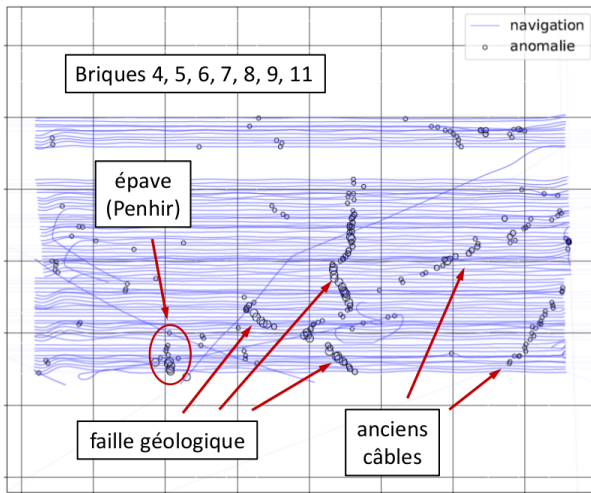
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1. Marine robots to build maps





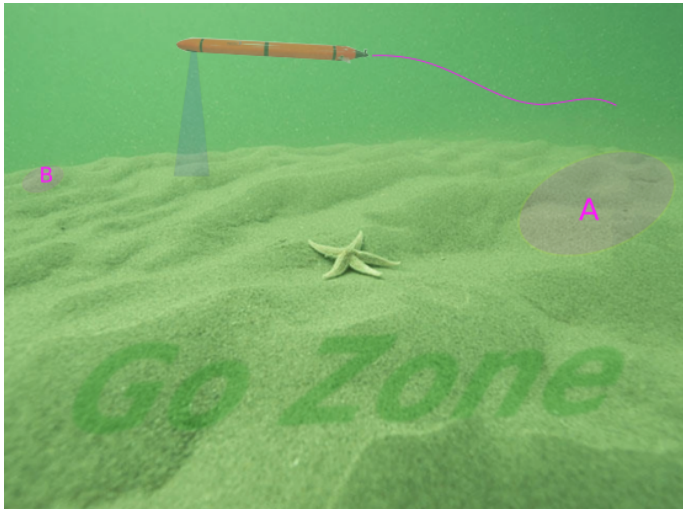


Magnetic map built in 2018

2. Cycle-based navigation

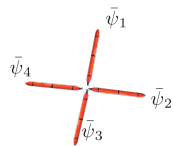
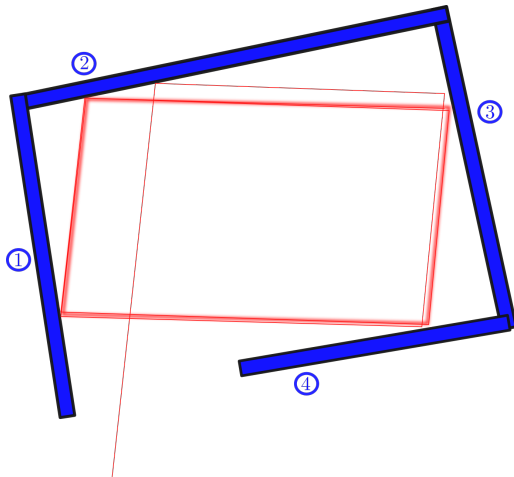


Submeeting 2018





youtu.be/TsvEUGa-XAs





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 $\mathbf{x}(t)$.