

VISIONS & HALLUCINATIONS



1000 Sailing Robots: Swarm Sensing with Low Cost Autonomous Yachts
...with apologies to Henry Stommel and Hieronymus Bosch...

Stewart Bernard, CSIR, South Africa



1000 Sailing Robots: Swarm Sensing with Low Cost Autonomous Yachts



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Full length article

The SailBuoy remotely-controlled unmanned vessel: Measurements of near surface temperature, salinity and oxygen concentration in the Northern Gulf of Mexico

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As autonomous platforms such as wave powered surface vessels and submarine gliders come of age, there is scope to use low cost wind powered vessels - they have been used for thousands of years, after all.....

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Autonomous sailing boats have many potential advantages which could be used to a) substantially lower costs (and increase size of the observation matrix) for surface autonomous vessels and b) allow dense swarm sampling of oceanographic features for event scale biophysical resolution.

- Low energy propulsion with ability for solar recharge means long potential mission times (not withstanding high risk surface platform)...
- Simple propulsion, platform and power systems lends itself to very low cost platform with low operating costs.....
- Simple robust platforms that can easily accommodate sensors, satellite telemetry etc without major ballasting issues...
- Small light cheap surface yachts can be considered expendable and present little risk to other surface vessels i.e. unlikely to cause damage when they are run over....
- Good potential for open source approach and distributed builds e.g. Protei



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