

Experience with the GNSS-Based Tide Gauge at the Onsala Space Observatory

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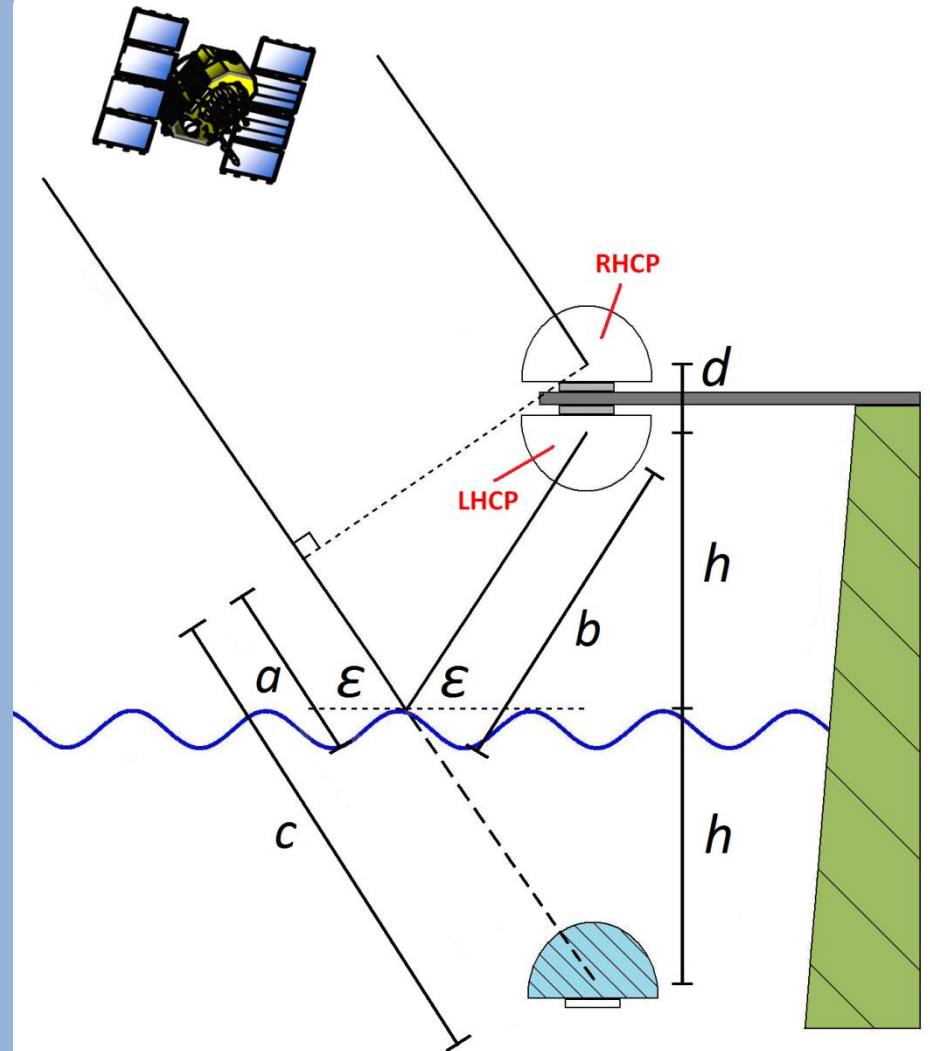
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- Two antennas: one zenith-looking Right Hand Circular Polarized (RHCP) and one nadir-looking Left Hand Circular Polarized (LHCP).
- Two standard geodetic-type GNSS receivers.
- The RHCP antenna receives the GNSS-signals directly, whereas the LHCP antenna receives the signals reflected from the sea surface.
- When the sea level changes, the path delay of the reflected signal changes, thus the LHCP antenna will appear to change position.





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- Estimated vertical baseline (local sea level) using single differenced GPS L1 phase data (1Hz).
- Solutions with different temporal resolution: 5 seconds to 1 hour.
- Comparison with sea level observations from stilling well gauges at Ringhals and Göteborg about 18 km and 33 km away from Onsala Space Observatory, respectively.

