



Contribution ID: 79

Type: **Poster**

## Magnetometry in maritime conditions

*Thursday 7 August 2025 16:40 (5 minutes)*

Until now, highly sensitive optically pumped magnetometers (OPMs) have mainly been used in shielded environments under strictly controlled laboratory conditions. However, for a continuous dissemination of this technology and the development of additional areas of application and research, it will be essential to adapt it to more challenging environments.

In particular, the maritime domain poses a challenge due to harsh environmental conditions, limited accessibility as well as natural and artificial sources of interference. At the same time, the sea is also a scientifically exciting and complex system with many open research questions, for example in the field of magnetohydrodynamics, geology or biology, which could be further investigated with modern sensor technology like OPMs.

The poster presentation will show how the path to a maritime adaptation of magnetic field sensors and optically pumped magnetometers is being paved as part of applied research work at WTD 71 and which particular challenges need to be solved. Examples will be given of how magnetic field sensors can be deployed at sea for scientific experiments, which special conditions need to be considered and how further development could be realized.

**Author:** Dr ROSNER, Martin (Bundeswehr Technical Center for Ships and Naval Weapons, Maritime Technology and Research (WTD 71))

**Presenter:** Dr ROSNER, Martin (Bundeswehr Technical Center for Ships and Naval Weapons, Maritime Technology and Research (WTD 71))

**Session Classification:** Poster Session and Buffet