



With our December newsletter, we would like to take the opportunity to thank you for your support and for your faithful cooperation throughout the year.

Have a peaceful Christmas and succesful Year 2010.

- ⇒ WERA No. 50 installed - solar powered -
- ⇒ Network Marketing Meeting NORS 2010
- ⇒ Quality Control for WERA standard Software
- ⇒ Oceans '10 Down Under
- ⇒ IRS 2010, Lithuania
- ⇒ Sea Tech Week Brest 2010
- ⇒ WERA Operators Seminar 2009 Review
- ⇒ ROS 2009: New Project Opportunities

The following pages will forward additional information on each topic.  
Enjoy reading!

**NO. 50 installed - solar powered -**

Helzel Messtechnik is proud to announce the delivery of the 50. WERA Remote Ocean Sensing System worldwide which has been sold to the South Australian Research and Development Institute SARDI and is already operational within the Australian Coastal Ocean Radar Network at the South Australian coast near Adelaide.

It has been installed by our engineers and the ACORN staff in September 2009. In the meantime production is running smoothly and reached the 54. System preparation. All to be delivered in 2010.

Special thanks to our team and partners for their excellent work in 2009!



WERA Site No. 50  
Cape Wiles / Cape Spencer  
South Australia



## Network Marketing Meeting NORS 2010

### International Network Marketing Meeting for Ocean Remote Sensors, Systems and Software planned for 2010

For 2010, we have planned a special marketing meeting for our agent and partner network to exchange ideas of marketing strategies and discuss on the integration of complementary products and services.

We invite all WERA users to forward ideas and wishes about additional services and products which should be added or linked to the product range of the WERA group.

Your ideas and comments are highly appreciated.



Network Marketing Meeting 2005



## Quality Control for WERA standard software

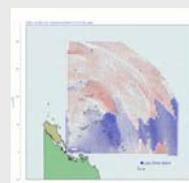
Within the Australian Coastal Ocean Radar Network project ACORN, four additional WERA HF-radar systems have been installed in 2009 near Perth and Adelaide.

During the ACORN project work, the ACORN team has developed a new technique to improve quality control. Arnstein Prytz from the ACORN team visited Hamburg in November to meet Klaus-Werner Gurgel (University of Hamburg) and the Helzel team to exchange information on this improved algorithm in order to implement it within the standard WERA software.

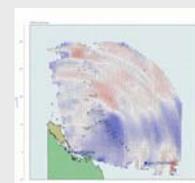
A significant effort has been made by ACORN to ensure the quality of HF radar data going into the archive. In developing QC indices for the WERA systems they found it necessary to analyse original Doppler Shift spectra coming from the WERA radars. The new algorithm helps to better determine the correct Bragg peaks within strongly disturbed spectra in case of significant HF noise, and thus to improve the estimate of surface current radial components.

ACORN have also developed a technique which uses near neighbour pixels, not to average or smooth, but to determine the spatial consistency of the position of the Bragg peaks in the presence of noise and spikes. In doing this ACORN has developed an improved algorithm to produce surface current components from raw spectra. Acknowledgement and appreciation to Arnstein Prytz at ACORN for his work on QC!

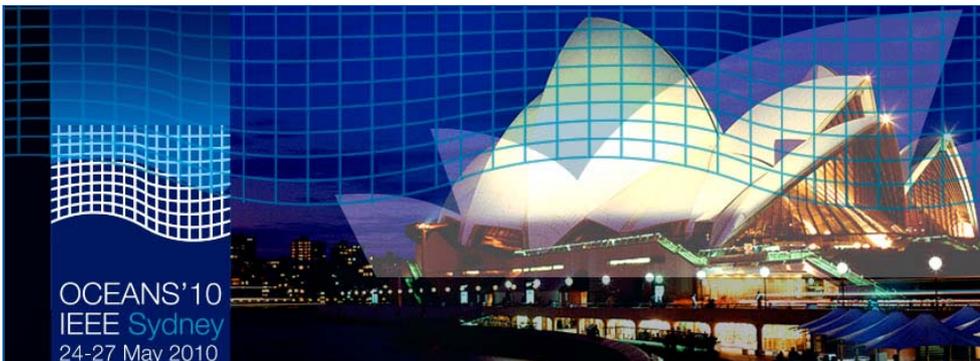
The 2 examples are from 16 June 2009 at 0200 GMT WERA Site on Lady Elliot Island:



ACORN algorithm



WERA algorithm



Dr. Brian Ferguson, Conference General Chair: **“OCEANS ’10 IEEE Sydney** is a forum that brings together representatives from universities, industry and government organisations with policy makers, stakeholders and clients. The technical program and tutorials enable us to learn from international experts, to expand our professional network and to update us on the latest advances in marine science and engineering. The exhibition enables us to see and feel the latest sensors, systems, structures, information processing and display tools that are used to probe, measure, monitor and manage the world’s oceans. Also, OCEANS is an opportunity to promote marine science and ocean engineering as professional pursuits worthy of engagement by young Australians.

Venture down under for an unforgettable OCEANS experience!”

The Conference & Exhibition will be held at the Sydney Convention and Exhibition Centre at Darling Harbour. For additional details, please visit <http://www.oceans10ieeesydney.org/>

Meet our WERA team at booth **No. 59 – 60** which we will share with our partners PortMap and OceanWaveS. We would be pleased to see you down under.

**MRW 2010 / IRS 2010**

The joint scientific 4th Microwave and Radar Week MRW-2010 will be organized to embrace two conferences:

18th International Conference on Microwave, Radar and Wireless Communications MICON-2010  
June 14-16

**11th International Radar Symposium IRS-2010**

**June 16-18**

**Vilnius, Lithuania**



It will take place in Reval Hotel Lietuva in Vilnius, Lithuania. The official website could be found under: <http://www.irs-2010.org/index.html>



**21 – 25 June 2010**  
**7<sup>th</sup> International Marine Science and Technology Week**  
**Brest, France**



Centre of European excellence for oceanography and the marine environment, Brest is hosting the 7<sup>th</sup> Sea Tech Week, a major interdisciplinary forum for the marine science and technology sector.

Sea Tech Week combines five days of seminars and workshops with a professional trade fair, creating a unique forum for all those involved in the wide-ranging disciplines of maritime research and development. Around a thousand participants including researchers, economists, legal experts, industrialists and delegates from major institutions are expected to gather to review the latest scientific discoveries, groundbreaking technological developments and current economic and legal issues.

Sea Tech Week is organised by Brest métropole océane and supported by IEEE (Institute of Electrical and Electronics Engineers). <http://www.seatechweek-brest.org/>

WERA will be represented by our French partner **Actimar S. A.** [www.actimar.fr](http://www.actimar.fr) and our experts would be pleased to see you there.



**WERA Operators Seminar 2009 - Review**

This year's WERA Operators Seminar took place at Helzel Messtechnik factory and the WERA site at the North Sea Coast on the Island of Sylt from 28<sup>th</sup> September to 2<sup>nd</sup> October 2009.

The seminar concentrated on the understanding of the physics and technology behind WERA and gave an overview on the system hard- and software structure.

Our Helzel team enjoyed to impart their WERA knowledge to the international participants. Besides the theory, a hands-on-training at the factory and at the North Sea Coast site, we had an informative week of international exchange.

Thanks to all participants for this experience and your positive feedback!





The 2<sup>nd</sup> International Remote Ocean Sensing Workshop ROS 2009 which took place from November 23 – 24, 2009 at the Hanse Institute for Advanced Study (HWK) in Delmenhorst near Bremen, Germany, was an entire success for the organizers, the German Northwest Marine Research Association (NWVM), several member institutions and Helzel Messtechnik.

More than 35 international participants – amongst them attendees from UK, Croatia, Thailand and German research institutes like DLR, GKSS, AWI – discussed on the important role of Ocean Remote Sensing for innovative research, future needs and emerging applications with a special emphasis on renewable energy, environmental observation, modelling and prediction.

Operational and scientific stakeholders exchanged and discussed on active and passive methods in all spectral ranges, sensor combinations including microwave oceanography, ocean optics and acoustic profilers, satellite, airborne and ground-based methods including “ground truthing”. And due to the up-to-dateness one main topic was modelling and validation of tsunamis.

The most positive result is the development of at least three new international cooperative project ideas between participating institutes and companies which will be applied for beginning of 2010.

A success that can be exhibited!

The proceedings of this workshop are available upon request. The official website with abstracts could be found under:

<http://www.h-w-k.de/ROS2009.html>

