Papers

1) Synthetic aperture sonar: technology overview and future trends
Roy Edgar Hansen, Norwegian Defence Research Establishment (FFI), Norway  

3) A volumetric approach to SAR interferometry
Daniel Andre, Keith Morrison, Cranfield University, Prof David Blacknell, Dstl  

4) Source localisation in a tank with a moving hydrophone array
Sea-Moon Kim, Sung-Hoon Byun, and Hyun-Taek Choi, Korean Research Institute of Ships and Ocean Engineering  

5) A synthetic aperture acoustic prototype system
RH Luke, SS Bishop, AM Chan, PM Gugino, TP Donzelli, US Army RDECOM CERDEC NVESD, USA M Soumekh, Soumekh Consultant, USA  

6) Human-computer fusion for improved target recognition with synthetic aperture sonar imagery
David P. Williams NATO Centre for Maritime Research & Experimentation, Italy  

7) Aspects of multi-parameter radar ATR in complex environments: an overview of the work of NATO Task Group SET-163
Luc Vignaud (SDET-163 Chair), Onera, France, David Blacknell, Dstl, UK  

8) Sonar automatic target recognition for UXO remediation
Jason C. Isaacs, Naval Surface Warfare Center PCD, USA  

9) ATR fusion in SAS imagery from the MUSCLE sonar on complex seabeds
Joseph Woodward, Gary Davies, Dstl, UK  

10) Synthetic aperture sonar snippet image registration
Samantha Dugelay, CMRE, Italy  

11) Automated track extraction for coherent change detection images
Claire Stevenson, Matt Nottingham, Darren Muff, David Blacknell, Dstl, UK  

12) Automated seabed change detection using synthetic aperture sonar: current and future directions
Vincent L. Myers, Defence R&D Canada, Daniel D. Sternlicht, Naval Surface Warfare Center, USA, Roy E. Hansen, Norwegian Defence Research Establishment, Norway, Anthony P. Lyons, Penn State University, USA  

13) Motion tracking of transient refractive effects in SAS imagery using optical flow
14) Preliminary results from techniques to determine in situ medium speed of sound using a synthetic aperture sonar
James Prater, Naval Surface Warfare Center Panama City Division, Tim Marston, Applied Physics Laboratory-University of Washington 94

15) Spatial coherence theory and its application to synthetic aperture systems
Daniel C Brown, Anthony P Lyons, Pennsylvania State University, USA, Daniel A Cook, Georgia Tech Research Institute, USA 102

16) Correction of aperture errors in circular SAS imagery via pseudo-stripmap autofocusing
Timothy Marston APL-UW, Seattle, Washington, 98105 USA, Jermaine Kennedy NSWC PCD, Panama City Beach, Florida, 32407 USA, James Prater NSWC PCD, Panama City Beach, Florida, 32407 USA 110

17) Performance assessment tool for AUV based mine hunting
Øivind Midtggaard, Ivar Alm, Torstein O Sæbø, Marc Geilhufe and Roy E Hansen, Norwegian Defence Research Establishment (FFI) 118

18) Multipath reduction for synthetic aperture sonar interferometry with 2xn array
Ara Hyun and Woojae Seong, Seoul National University 128

19) A dual frequency approach for reduction of multipath effects on SAS systems in shallow waters
Ursula Hölscher-Höbing, Eike Krömer, ATLAS Elekronik GmbH, Germany 136

20) Multiband SAS imagery
Isaac D. Gerg, Pennsylvania State University, USA 144

21) Multiple-input multiple out-put SAS simulation
Qiu Hua Tian, Raviraj S. Adve, University of Toronto, Vincent Myers, Defence Research and Development Canada 156

22) Compressive sensing and target features: an information preserving approach for MIMO SAR
Giovanni Marino, Dario Tarchi, Michele Vespe, Vladimir Kyovtorov, European Commission - Joint Research Centre, Italy 163

23) Synthetic aperture imaging and autofocus with coherent MIMO sonar systems
Yan Pailhas & Yvan Petillot, Heriot Watt University, Scotland, UK 171

24) Experimental 3-D image formation combining ISAR and MIMO radar processing
25) Comparative study of frequency dependency in high resolution sonar imagery from the MANEX’13 sea trials
Marc Geilhufe1, Samantha Dugelay2, Stig A. W. Synnes1, Torstein O. Sæbø1, Øivind Midtgaard1 & Roy E. Hansen1, 1Norwegian Defence Research Establishment (FFI), Norway, 2NATO Science and Technology Organization, Centre for Maritime Research and Experimentation (CMRE), Italy 187

26) Invariant parameter estimation across varying seabeds in synthetic aperture sonar imagery
Chao Chen, Alina Zare, University of Missouri, USA and J. Tory Cobb, NSWC, USA 197

28) Boundary detection and superpixel formation in synthetic aperture sonar imagery
J. Tory Cobb, NSWC, USA, Alina Zare, University of Missouri, USA 207

29) Electromagnetic scattering study of cooperative radar engagement for SAR on sea surface target detection
Tesfaye G-Michael, NSWC, USA; Thomas Lewis, AFRL, USA; and Rodney Roberts, Florida State University, USA 218

30) Adaptive automated detection for synthetic aperture sonar images using seabed classification
John A. Fawcett and Warren A. Connors, Defence R&D, Canada 224

31) Operational use of SAR detections for enhancing maritime anomaly detection
Giuliana Pallotta, Leonardo Millefiori and Karna Bryan, NATO Science and Technology Organization, Centre for Maritime Research and Experimentation (CMRE), Italy 232

32) Application of DPIA Algorithm to SAS Trials Data
Jonathan Coote, Ruth Aldred, Frazer-Nash Consultancy and Gary Davies, Dstl 240