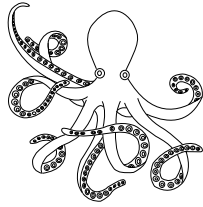


Diving & ROV **specialists**



Index for document research:
Non-Destructive Testing (NDT)

November 2025



Diving & ROV Specialists

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Purpose

This document lists the papers on "***Non Destructive Testing (NDT)***" archived in the relevant section of the "Diving and ROV Specialists" website database.

Its purpose is to serve as a supplementary resource for research to the chronological list and search engine capabilities. For this reason, the various documents are categorized under the following sub-sections:

- Presentations of principles used by NDT techniques
- Guidelines for NDT operations at the surface
- Guidelines for NDT operations performed underwater
- Various studies

Categorizations will be refined over time. However, it is impractical to provide search engines and classifications that fully reflect researchers' preferences. Therefore, it is hoped that these three search methods will enable you to find the documents you seek.

Unlike the website's chronological index, this document does not include descriptions of the content of the various papers. However, the chronological classification number, authors' names, and publication dates are available, allowing you to locate them in the chronological lists where the descriptions and download links are provided.

This list was published on 1 September 2024. Please note that new documents added for this edition of the website are listed for each main section on the home page of the website.



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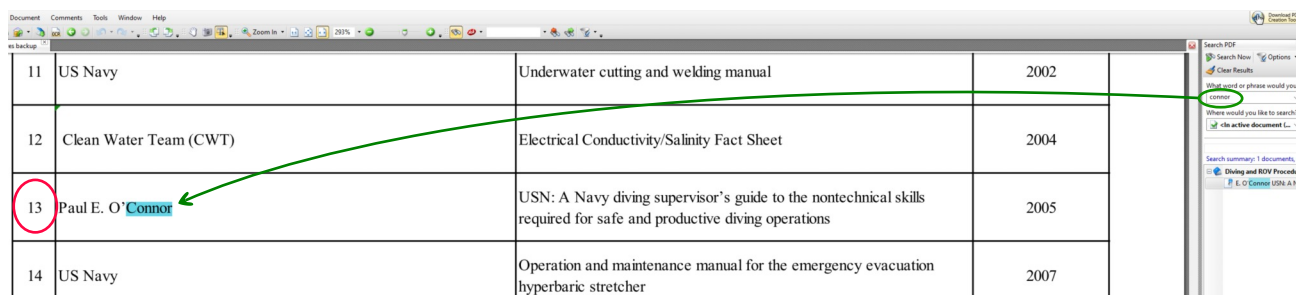
Important note:

This document is in PDF (Portable Document Format), so it can be downloaded and used independently of the website. It is also worth noting that some PDF readers come with a built-in search engine. This feature allows users to locate specific documents by entering relevant keywords, making document retrieval more efficient and convenient. It is, therefore, possible to find the desired document by browsing the list or by using the aforementioned search engine. Among the many free PDF readers available on the Internet, the four listed below include the aforementioned search engine:

- WPS Office (<https://www.wps.com/>) - works on Windows, Mac OS, and Linux
- PDF X Change Viewer (<https://pdf-xchange.eu/pdf-xchange-editor/index.htm>) - Works on Windows and Mac OS.
- Foxit Reader (<https://www.foxit.com/pdf-reader/>) - Works on Windows, Linux , and Mac OS
- Adobe Acrobat Reader (<https://get.adobe.com/reader/>) - Works on Windows and Mac Os.

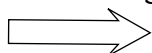
To locate a document within the chronological presentation of the database:

1. Follow the list and select the desired document, or use the search function of the PDF software by entering the keyword in the dedicated field. In this example, the author's name (Paul E. O'Connor) has been used.



11	US Navy	Underwater cutting and welding manual	2002
12	Clean Water Team (CWT)	Electrical Conductivity/Salinity Fact Sheet	2004
13	Paul E. O'Connor	USN: A Navy diving supervisor's guide to the nontechnical skills required for safe and productive diving operations	2005
14	US Navy	Operation and maintenance manual for the emergency evacuation hyperbaric stretcher	2007

2. Select the reference number (highlighted in red) and the year of publication (2005 in this example).
3. On the website, open the corresponding section and year of publication in the database (accessible via "Documents" in the navigation bar).



Diving & ROV procedures and standards

This section provides currently enforced diving standards and guidelines adopted by national bodies or published by professional organizations. It also includes procedures published by highly skilled independent authors that can serve as references. Links are provided to organizations that publish paid documents frequently used or imposed on contractors.

Note that we believe that every standard or norm imposed on contractors should be available free of charge.

Diving & ROV procedures

- Documents years 2019 to today

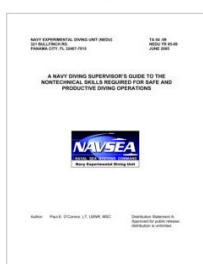
- Documents years 1960 to 2018

Historical

This section provides historical standards and procedures that have been used in the past.

4. Scroll down to find the corresponding number, title, and author's name in the chronological list. Click on the picture or the description, and enjoy.

13 - USN: A Navy diving supervisor's guide to the nontechnical skills required for safe and productive diving operations



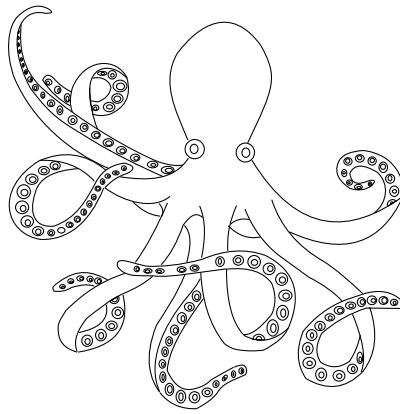
Author: Paul E O'Connor

The purposes of this guide are to provide information on the nontechnical skills required for safe and productive operations by U.S. Navy dive teams. Nontechnical skills are required for safe and effective performance in a technical context but are not directly related to technical expertise. The nontechnical skills addressed in this guide include situation awareness, decision making, team working/leadership, and mitigating the effects of stress and fatigue. Communication is not included as a separate topic since it underpins every one of these skills.

Reference USN: NEDU TR 05-09

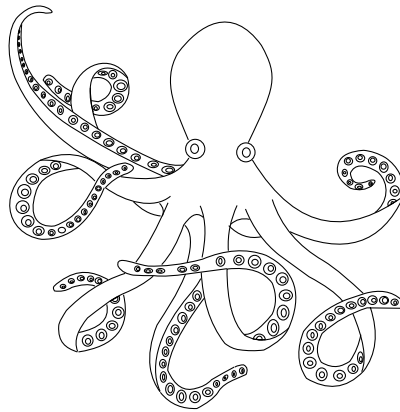
Date: June 2005

Presentations of principles used by NDT techniques



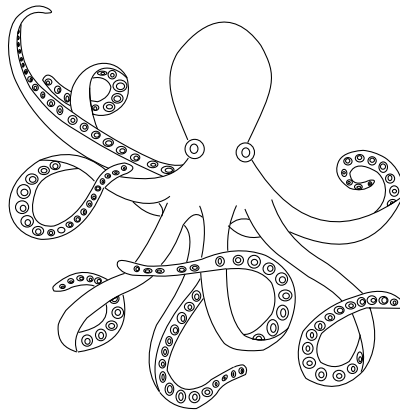
<i>Nb</i>	<i>Authors</i>	<i>Publisher</i>	<i>Title</i>	<i>Year publication</i>
1980 - 2023				
5	? (Authors and publishers unknown)	Cavexx ?	Basic Principles of Ultrasonic Testing	2000
7	? (Authors and publishers unknown)		Magnetic particle testing - presentation	2002
9	Mark Stephen Rogers		Non-Destructive Testing - Presentation	2002
16	Siemens Rolling Stock Pvt. Ltd	Siemens Rolling Stock Pvt. Ltd	Ultrasonic testing - presentation	2010
17	International Atomic Energy Agency	International Atomic Energy Agency	Eddy Current Testing at Level 2: Manual for the syllabi Contained in iaea-TeCDoC-628.rev. 2 "Training guidelines for non Destructive Testing Techniques"	2011
21	Ortiz Alonso, Lucio-Garcia, Hermoso-Diaz, Chacon-Nava, Martinez-Villafañe, Gonzalez-Rodriguez	Science Direct	Detection of Sulfide Stress Cracking in a Supermartensitic Stainless Steel by Using Electrochemical Noise	2014-09
26	Restu Putra, & Ahmad Irsyad		Eddy current inspection application - Presentation	2017
32	IAEA	IAEA	IAEA - An Introduction to Practical Industrial Tomography Techniques for Non-destructive Testing (NDT)	2013
34	Thomas Scholz, Martin Laurenzis and Frank Christnacher		Laser-based imaging applications in turbid waters	2019-09
2024 - 2025				
4	Jianghai He		Introduction Remote-operated Underwater Vehicle for Inspection of Underwater Structure	2024-04
6	Manuela Ammann		Robotic photogrammetric underwater inspection of hydropower plants	2024-06
7	Ayush Kumar Ojha		Deep Learning Techniques for Enhanced Underwater Remote Sensing: Applications in Marine Biodiversity and Infrastructure Inspection	2024-06
11	Yifan Tian, Alexander Grigorievich Palaev, Ildar Ayratovich Shammazov and Yiqiang Ren		Non-destructive testing technology for corrosion wall thickness reduction defects in pipelines based on electromagnetic ultrasound	2024-07

Guidelines for NDT operations performed at the surface



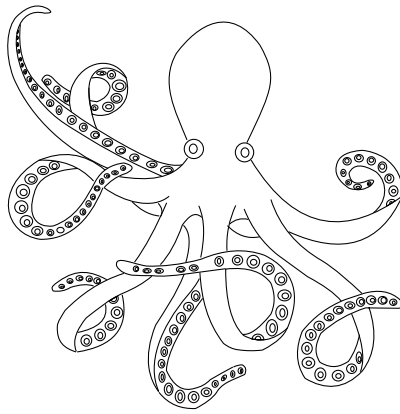
<i>Nb</i>	<i>Authors</i>	<i>Publisher</i>	<i>Title</i>	<i>Year publication</i>
1980 - 2023				
4	A.I.Bondarenko, & E.O.Paton		Mechanism of detection of discontinuities in pipelines by ultrasonic guide waves	2000
6	IAEA	IAEA	IAEA - Guidebook for the Fabrication of Non-Destructive Testing (NDT) Test Specimens.	2001
8	UK-HSE		UK-HSE Guidelines for use of statistics for analysis of sample inspection of corrosion - Research report 016	2002-07
10	UK-HSE		UK-HSE Effect of platform robustness on inspection planning - Research report 246	2004-07
11	IAEA	IAEA	IAEA - Non-destructive testing for plant life assessment	2005
13	R. Raišutis, E. Jasiūnienė, R. Šliteris, A. Vladiškauskas		The review of non-destructive testing techniques suitable for inspection of the wind turbine blades	2008-06
14	Reza K. Amineh, Maryam Ravan, Hesamedin Sadeghi, & Rouzbeh Moini		Removal of Probe Liftoff Effects on Crack Detection and Sizing in Metals by the AC Field Measurement Technique	2008
15	UK-HSE		UK-HSE Analysis of inspection reports from Asset Integrity Key Programme 3	2009-01
17	International Atomic Energy Agency	International Atomic Energy Agency	Eddy Current Testing at Level 2: Manual for the syllabi Contained in iaea-TeCDoC-628.rev. 2 "Training guidelines for non Destructive Testing Techniques"	2011
18	Dzevad Hadzihaifizovic		Welders' visual inspection handbook	2013
20	IAEA	IAEA	IAEA - Training Guidelines in Non-destructive Testing Techniques: 2013	2013
22	Peter W. Tse and J.M. Chen		Effective Guided Wave Technique for Performing Non-destructive Inspection on Steel Wire Ropes that Hoist Elevators	2014-11
24	Frontline	Frontline	Procedure for Visual and Optical Inspection	2016
27	Hwei-Yang Tan		Statistical Methods for the Analysis of Corrosion Data for Integrity Assessments	2009-01
30	K Nagendran		Non-destructive testing methods: Liquid penetration & Magnetic particule testing	2018

Guidelines for NDT operations performed underwater



<i>Nb</i>	<i>Authors</i>	<i>Publisher</i>	<i>Title</i>	<i>Year publication</i>
1980 - 2023				
1	W. D. Dove, R. Collins, D. H. Michael		The Use of AC-Field Measurements for Crack Detection and Sizing in Air and Underwater	1986
2	UK HSE	UK HSE	A handbook for underwater inspectors	1988
3	(Dr. John M. Webster. Dr Thanga Thevar. Tim Schmidt. Jackie Mew. (deceased))		A New Computational Imaging Method for the Remote Detection and Quantification of Hidden Corrosion	1999-01
29	Ali Khaloo, David Lattanz, Adam Jachimowicz, & Charles Devaney		Utilizing UAV and 3D Computer Vision for Visual Inspection of a Large Gravity Dam	2018
42	Xiaofei Li, Heming Sun, Taiyi Song, Tian Zhang, Qinghang Meng		A method of underwater bridge structure damage detection method based on a lightweight deep convolutional network	2022-07
47	Sheng Shen, Zheng Cao, & Changqin Lai		Scanning Scheme for Underwater High-Rise Pile Cap Foundation Based on Imaging Sonar	2023-04
2024 - 2025				
16	Ruben Rodríguez Elizalde		Underwater Inspection of Submerged Elements in Masonry Bridges and Other Old Civil Structures Using Drones	2024-08
18	Valery Bobkov and Alexey Kudryashov		A Method for Recognition and Coordinate Reference of Autonomous Underwater Vehicles to Inspected Objects of Industrial Subsea Structures Using Stereo Images.	2024-08
24	Seda Karadeniz Kartal, and Recep Fatih Cantekin		Autonomous Underwater Pipe Damage Detection Positioning and Pipe Line Tracking Experiment with Unmanned Underwater Vehicle	2024-11
25	Erika Ottaviano, Agnese Testa, Pierluigi Rea, Marco Saccucci, Assunta Pelliccio, and Maurizio Ruggiu		Experimental Activity with a Rover for Underwater Inspection	2024-12
28	Yomi Femi, Ademola Romke		Smart Pipeline Monitoring System: Revolutionizing Pipeline Management	2025-01

Various studies



<i>Nb</i>	<i>Authors</i>	<i>Title</i>	<i>Year publication</i>
1980 - 2023			
23	Ken Woolley, Tim Woolley, & Bruce Banfield	A fresh initiative on the use of daylight magnetic particle inspection for the inspection of underwater steel structures	2015
25	Pengfei Shi, Xinnan Fan, Jianjun Ni, Zubair Khan, Min Li	A novel underwater dam crack detection and classification approach based on sonar images	2017-06
28	Mark W Hounslow	Encyclopaedia of the Anthropocene: Magnetic particulates as markers of fossil fuel burning	2017
31	Scott Schecklman, and Lisa M. Zurk	Terahertz Imaging of Thin Film Layers with Matched Field Processing	2018-10
33	Lars Sieber, Ralf Urbanek, Jürgen Bär	Crack-Detection in old riveted steel bridge structures	2019-09
35	Noor Amila Wan Abdullah Zawawi, M.S. Liew, Wesam Salah laoul, E. Lim, Muhammad Imran, Iraj Toloue	Non-Destructive Testing Techniques for Offshore Underwater Decommissioning Projects through Cutting Detection: A State of Review	2020-06
36	Jiachen Liang, Bo Chen, Chenfei Shao, Jianming Li, and Bangbin Wu	Time Reverse Modeling of Damage Detection in Underwater Concrete Beams Using Piezoelectric Intelligent Modules	2020-12
37	Duje Medak, Luka Posilovic, Marko Subasic, Marko Budimir, & Sven Loncari	Automated Defect Detection from Ultrasonic Images Using Deep Learning	2021-05
38	Jiannan Zhang, Younho Cho, Jeongnam Kim, Azamatjon Kakhramon ugli Malikov, Young H. Kim, Jin-Hak Yi, and Weibin Li	Non-Destructive Evaluation of Coating Thickness Using Water Immersion Ultrasonic Testing	2021-11
39	Chao Chen, & Xingyuan Zhang	Research on laser ultrasonic surface defect identification based on a support vector machine	2021-11
40	Seong Jin Lim, Young Lae Kim, Sungjong Cho, and Ik Keun Park	Ultrasonic Inspection for Welds with Irregular Curvature Geometry Using Flexible Phased Array Probes and Semi-Auto Scanners: A Feasibility Study	2022-01
41	Byung Chul Kim, Hoe Chang Kim, Sungho Han, and Dong Kyou Park	Inspection of Underwater Hull Surface Condition Using the Soft Voting Ensemble of the Transfer-Learned Models	2022-06
43	Shoya Adachi, Minoru Hayashi, Taisei Kawakami, Yuto Ando, Jin Wang, Kenji Sakai, Toshihiko Kiwa, Toshiyuki Ishikawa, and Keiji Tsukada	Thickness Measurement at High Lift-Off for Underwater Corroded Iron-Steel Structures Using a Magnetic Sensor Probe	2022-12
45	Chunbao Xiong, Sida Lian, and Wen Chen	Detection and Location of Steel Structure Trestle Surface Cracks Based on Consumer-grade Camera System	2023-01
46	Xingda Ji, Tao Zou, Xu Bai, Xinbo Niu, and Longbin Tao	Fatigue assessment of flange connections in offshore wind turbines under the initial flatness divergence	2023-02
48	Franka Nauer, and Peter Kampmann	Inspection and maintenance of industrial infrastructure with autonomous underwater robots	2023-08
2024 - 2025			
1	Zehao Wang, Defeng Zheng, Xingsen Guo, Zhongde Gu, Yueqiang Shen, & Tingkai Nian	Investigation of offshore landslides impact on bucket foundations using a coupled SPH–FEM method	2024-01
2	Alexandre Cardaillac	Towards autonomous underwater navigation and perception for end-to-end ship hull inspection	2024-03
3	Jun Ito, Yudai Igarashi, Ryota Odagiri, Shigetaka Suzuki, Hiroshi Wagatsuma, Kazuhiro Sugiyama, and Mikihiro Oogane	Evaluation of Pipe Thickness by Magnetic Hammer Test with a Tunnel Magnetoresistive Sensor	2024-03
5	Oleg Gaidai, Yu Cao, Yan Zhu, Fuxi Zhang, and Hongchen Li	Multivariate Risk Assessment for Offshore Jacket Platforms by Gaidai Reliability Method.	2024-05
8	Jingzhou Xin, Guangjiong Tao, Qizhi Tang, Fei Zou, Chenglong Xiang	Structural damage identification method based on Swin Transformer and continuous wavelet transform.	2024-06

9	Paul Dario Toasa Caiza, Daiki Shiozawa, Thomas Ummenhofer, Takahide Sakagami	Real time detection of fatigue cracks on steel structures by applying square wave induction	2024-07
10	Jiangpei Zhu, Mei-Ling Zhuang, Yuting Qi, Bin Chen, Xiaojian Cao	Effect of ultrasonic surface impact on the microstructural characterization and mechanical properties of 316L austenitic stainless steel	2024-07
12	M. Mwelango, X. Yin, M. Zhao, Z. Zhang, Z. Han, R. Fan, P. Ma, X. Yuan, and W. Li	Feasibility Study on the Use of the Coplanar Capacitive Sensing Technique for Underwater Non-Destructive Evaluation	2024-07
13	Hao Wang, Kan Wang, Xiaolei Liu, Yang Liu, Zhijia Qian, and Sheng Ding	Evaluation of damage performance in offshore floating photovoltaics-based hydrogen production system due to potential hydrogen release	2024-07
14	Siqiang Cheng, Yi Liu, Aibin Tang, Libin Yang	An Underwater Robot Inspection Anomaly Localization Feedback System Based on Sonar Technology	2024-08
15	Lutz Bretschneider, Sven Bollmann, Deborah Houssin-Agbomson, Jacob Shaw, Neil Howes, Linh Nguyen, Rod Robinson, Jon Helmore, Michael Lichtenstern, Javis Nwaboh, Andrea Pogany, Volker Ebert, and Astrid Lampert	Concepts for drone based pipeline leak detection	2024-08
17	Andrei Nazarov, Tatiana Yurasova, and Andrey Marshakov	Hydrogen Absorption and Self-Corrosion of Mg Anode: Influence of Aqueous Electrolyte Species	2024-08
19	Chenxi Liang, Yang Zhao, and Fei Kang	Intelligent Detection of Underwater Defects in Concrete Dams Based on YOLOv8s-UEC	2024-09
20	Michael D. Dukes, James M Karalekas, Dustin W. Noel, Heath K. Pope, David R. Reser, Jeffrey B. Rowe, Andrew Young	Underwater Bridge Inspection Reference Manual	2024-09
21	Yazhou Zhang, Huansheng Wu, Linpeng Liu, Yang Yang, Changchao Zhang, and Ji'an Duan	Crack-Based Composite Flexible Sensor with Superhydrophobicity to Detect Strain and Vibration	2024-09
22	Jie Liu, Deyuan Li, Xin Xu	Enhancing bridge damage detection with Mamba-Enhanced HRNet for semantic segmentation	2024-10
23	Yuheng Chen, Haicheng Zhang, Weisheng Zou, Haihua Zhang, Bin Zhou, Daolin Xu	Dynamic modeling and learning based path tracking control for ROV-based deep-sea mining vehicle.	2024-10
26	Beate Oswald-Tranta	Inductive thermography – review of a non-destructive inspection technique for surface crack detection	2024-12
27	Emmanuella Onyinye Nwulu, Tari Yvonne Elete, Friday Emmanuel Adikwu, and Fidelis Othuke Onyeke	Advancing inspection techniques for coating durability: A framework for integrating non-destructive testing technologies.	2024-12
29	Maxime Fauconnier, Bhuvaneshwari Karunakaran, Alex Drago-González, William S. Y. Wong, Robin H. A. Ras, & Heikki J. Nieminen	Fast capillary waves on an underwater superhydrophobic surface	2025-02
30	Mohammadebrahim Bajgholi, Gilles Rousseau, Denis Thibault, Simon Francoeur	Advanced Non-Destructive Testing Techniques for Welded Joint Repairs: A Case Study on Improving Inspection Reliability and Structural Integrity Assessment	2025-02
31	Luca Paterlini, Andrea Marinelli, Andrea Brenna and Marco Ormellese	Protection Criteria of Cathodically Protected Pipelines Under AC Interference.	2025-02
32	Qingdong Ou, Shuwen Xue, Weiliang Ma, Jiong Yang, Guangyuan Si, Lu Liu, Gang Zhong, Jingying Liu, Zongyuan Xie, Ying Xiao, Kourosh Kalantar-Zadeh, Xiang Qi, Peining Li, Zhigao Dai, Huanyang Chen, Qianliang Bao	Natural van der Waals canalization lens for non-destructive nanoelectronic circuit imaging and inspection	2025-02
33	Andrzej Kuchin, Krzysztof Dragan, Marko Nagode, Krzysztof Lis, Kamil Jozsko, Adam Cholewa, Jernej Klemenc, Simon Oman, Paweł Żak, Piotr Synaszko	Towards quantification of hidden corrosion using D-Sight non-destructive testing technique	2025-03
34	Kamal Dhandha, Bharat Joshi, Kamlesh Mistry, Manish Mishra, and Bhavesh Limbada	Helium Leak Testing Requirements in Fabrication of Cryogenic Storage Tanks	2025-04
35	Li Jiaqing, Song Fei, Xiao Zidong, Zhu Longji, Chen Lan, Wei Zheliang	Investigation into fatigue micro-crack identification of steel bridge decks based on acoustic emission detection technology	2025-04
36	Wenhao Ren, & Zuowei Zhong	LBA-YOLO: A novel lightweight approach for detecting micro-cracks in building structures	2025-05
37	Qian Liu, Bin Xu, Xinhai Zhu, Ronglin Chen, and Hanbin Ge	Experimental Study on Interface Debonding Defect Detection and Localization in Underwater Grouting Jacket Connections with Surface Wave Measurements	2025-05

38	Xianfeng Zeng, Wenji Ai, Zongchao Liu, and Xianling Wang	Unsupervised Restoration of Underwater Structural Crack Images via Physics-Constrained Image Translation and Multi-Scale Feature Retention	2025-06
39	Renan Favarão da Silva, Edison Gabriel Veruz, Alécio Julio Silva, Miguel Angelo de Carvalho Michalski, Gilberto Francisco Martha de Souza, Anderson Takehiro Oshiro	Underwater Inspection Planning Based on Reliability and Decision-Making techniques: An FPSO Platform Case Study.	2025-06
40	Dulo Chukwemeka Wegner	A Review on the Advances in Underwater Inspection of Subsea Infrastructure: Tools, Technologies, and Applications	2025-06
41	Bing Zhao, Shuo Li, Xiangbin Wang, Mingyu Yang, Xin Yu, Zhaoxu Meng, and Gang Wan	Design of Control System for Underwater Inspection Robot in Hydropower Dam Structures	2025-08
42	Xiaobian Wu, Weibo Zhang, Guangze Shen, and Jinbao Sheng	Edge-Enhanced CrackNet for Underwater Crack Detection in Concrete Dams	2025-09
43	Wenji Ai, Zongchao Liu, Shuai Teng, Shaodi Wang, and Yinghou He	Deep Learning for Underwater Crack Detection: Integrating Physical Models and Uncertainty-Aware Semantic Segmentation	2025-09
44	Viviane F. da Silva, Theodoro A. Netto, and Bessie A. Ribeiro	Deep Learning Approaches for Fault Detection in Subsea Oil and Gas Pipelines: A Focus on Leak Detection Using Visual Data	2025-09
45	Taehwi Lee, and Min Ook Kim	Next-Gen Nondestructive Testing for Marine Concrete: AI-Enabled Inspection, Prognostics, and Digital Twins	2025-09
46	Xiaoyan Xu, Jie Yang, Lin Cheng, Chunhui Ma, Fei Tong, Mingzhe Gao, and Xiangyu Cao	Dynamic Illumination and Visual Enhancement of Surface Inspection Images of Turbid Underwater Concrete Structures	2025-09
47	Andrii Kompanets, Davide Leonetti, (Bert) Snijder	Visual Crack Detection in Steel Structures with Convolutional Neural Networks	2025-10
48	Dong Trong Nguyen, Christian Lindahl Elseth, Jakob Rude Øvstaas, Nikolai Arntzen, Geir Hamre, and Dag-Børre Lillestøl	Enabling scalable inspection of offshore mooring systems using cost-effective autonomous underwater drones	2025-10
49	Cristiano Giuseppe Coviello, Fabio Rizzo, and Maria Francesca Sabbà	Optimization of the Number of Accelerometer Placements for Dynamic Identification of a Historical Masonry Bridge	2025-10

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