

[Waves in Random and Complex Media](#) >Volume 24, 2014 - [Issue 2](#)

559 | 36

Views | CrossRef citations to date | Altmetric | 0

Articles

Structure functions for optical wave propagation in underwater medium

Yalçın Ata  & Yahya Baykal

Pages 164-173 | Received 06 Nov 2013, Accepted 15 Jan 2014, Published online: 11 Feb 2014

 Cite this article <https://doi.org/10.1080/17455030.2014.884735> Check for updates

Sample our
Mathematics & Statistics
Journals

>> [Sign in here](#) to start your access
to the latest two volumes for 14 days

 Full Article Figures & data References Citations Metrics Reprints & Permissions

Read this article

Share

Abstract

The features of the wave structure function (WSF) derived for spherical excitation in turbulent water are investigated. It is found that as the rate of the dissipation of turbulent kinetic energy ε decreases, WSF increases. The rate of dissipation of the mean-squared temperature X_T is observed to be proportional to the WSF value. Deviation from the source and the receiver axis reveals greater turbulence effect. Salinity driven turbulence gives greater WSF values compared to the temperature driven turbulence. As expected, WSF is found to increase as the propagation distance increases.

Acknowledgments

The authors gratefully acknowledge the support provided by Çankaya University and the ICT COST Action IC1101 entitled “Optical Wireless Communications – An Emerging Technology”.

Related research

People also read

Recommended articles

Cited by
36

Information for

Authors

R&D professionals

Editors

Librarians

Societies

Opportunities

Reprints and e-prints

Advertising solutions

Accelerated publication

Corporate access solutions

Open access

Overview

Open journals

Open Select

Dove Medical Press

F1000Research

Help and information

Help and contact

Newsroom

All journals

Books

Keep up to date

Register to receive personalised research and resources by email



Sign me up



Copyright © 2026 Informa UK Limited [Privacy policy](#)

[Cookies](#) [Terms & conditions](#) [Accessibility](#)

Registered in England & Wales No. 01072954
5 Howick Place | London | SW1P 1WG



Taylor & Francis
by informa