

OCEAN FUNDAMENTAL PHENOMENA DEFINED BY VECTOR NATURE OF ACOUSTIC INTENSITY

V.A. Schurov, S.G. Scheglov, A.S. Lyashkov, E.S. Tkachenko

The article covers theoretical and experimental acoustic studies of deep oceans and shallow sea based on the concept of the vector-phase method. For the first time, such fundamental phenomena like compensation of opposing energy flows, curls of acoustic energy flux vector, anisotropy of low and medium frequency underwater acoustic noise are detected and investigated, processing algorithms based on the fourth statistical moment are designed, noise-sustainability of a combined receiving systems is determined relative to the quadrature detector, and an unparalleled receiving combined systems are designed. In addition, the article presents a survey of phenomena associated with the vector nature of the energy-flux density (intensity vector).

Keywords: vector-phase method, vector of acoustic intensity, curl of acoustic intensity, compensation of energy flows, the fourth statistical moment.

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About the authors

SCHUROV Vladimir Aleksandrovich, Dr.Sc., professor, adviser
V.I. Il'ichev Pacific Oceanological Institute of the Far Eastern Branch
of the Russian Academy of Sciences
Address: 43, Baltiyskaya Street, Vladivostok, 690041, Russia
Research interests: vector acoustics of the ocean
Phone: +7(423)231-21-01
E-mail: shchurov@poi.dvo.ru
ID eLibrary.ru: 27462

SCHEGLOV Sergej Georgievich, lead engineer
V.I. Il'ichev Pacific Oceanological Institute of the Far Eastern Branch
of the Russian Academy of Sciences
Address: 43, Baltiyskaya Street, Vladivostok, 690041, Russia
Research interests: experimental studies of the ocean using vector
acoustics, processing of experimental data
E-mail: ssg57@mail.ru
Phone: +7(423)231-21-01

LYASHKOV Aleksej Sergeevich, lead engineer
V.I. Il'ichev Pacific Oceanological Institute of the Far Eastern Branch
of the Russian Academy of Sciences
Address: 43, Baltiyskaya Street, Vladivostok, 690041, Russia
Research interests: mathematical signal processing in underwater
vector acoustics
E-mail: aslsh@mail.ru
Тел. +7(423)231-21-01

TKACHENKO Elena Stanislavovna, lead engineer
V.I. Il'ichev Pacific Oceanological Institute of the Far Eastern Branch
of the Russian Academy of Sciences
Address: 43, Baltiyskaya Street, Vladivostok, 690041, Russia
Research interests: experimental studies of the ocean using vector
acoustics, processing of experimental data
E-mail: 525065@mail.ru
Тел. +7(423)231-21-01