Most Downloaded Journal of Hydrodynamics Articles

The most downloaded articles from ScienceDirect in the last 90 days.

1. Hydrodynamics of marine and offshore structures
1 January 2015
O.M. FALTINSEN
An overview of hydrodynamic problems related to the broad variety of ships and sea structures involved in transportation, oil and gas exploration and production, marine operations, recovery of oil-spill,...

2. Wind-wave induced dynamic response analysis for motions and mooring loads of a spar-type offshore floating wind turbine
1 January 2015
Yu MA | Zhi-qiang HU | Long-fei XIAO
Due to the energy crisis and the environmental issues like pollution and global warming, the exploration for renewable and clean energies becomes crucial. The offshore floating wind turbines (OFWTs)...

3. Effects of vegetations on the removal of contaminants in aquatic environments: A review
1 September 2014
Chao WANG | Sha-sha ZHENG | Pei-fang WANG | Jin QIAN
This paper reviews the removal of contaminants including nutrients, metals and organic pollutants by vegetations in aquatic environments. The removal efficiencies are considered with respect to 16,...

4. Recent progress in CFD for naval architecture and ocean engineering
February 2015
Frederick STERN | Zhaoyuan WANG | Jianming YANG | Hamid SADAT-HOSSEINI | Maysam MOUSAVIRAAD | Shanti BHUSHAN | Matteo DIEZ | Sung-Chen WU | Seong Mo YEON | Robert S. THODAL | Joachim L. GRENESTEDT
An overview is provided of CFDShip-Iowa modeling, numerical methods and high performance computing (HPC), including both current V4.5 and V5.5 and next generation V6. Examples for naval architecture...

5. Water hammer in the pump-rising pipeline system with an air chamber
1 January 2015
Sang-Gyun KIM | Kye-Bock LEE | Kyung-Yup KIM
Water hammer following the tripping of pumps can lead to overpressure and negative pressure. Reduction in overpressure and negative pressure may be necessary to avoid failure, to improve the efficiency...

6. Non-spherical multi-oscillations of a bubble in a compressible liquid
1 January 2015
Qian-xi WANG | Yuan-xiang YANG | Danielle Sweimann TAN | Jian SU | Soon Keat TAN
Bubble dynamics are associated with wide and important applications in cavitation erosion in many industrial systems, medical ultrasonics and underwater explosions. Two recent developments to this classical...

7. An analysis of dam-break flow on slope
1 January 2015
Li-hui WANG | Cun-hong PAN
The one-dimensional steep slope shallow water equations are used to model the dam-break flow down a uniform slope with arbitrary inclination, and analytical solutions are derived by the hodograph transformation...
8. Experimental study of flow field in interference area between impeller and guide vane of axial flow pump
1 January 2015
Hua ZHANG | Wei-dong SHI | Bin CHEN | Qi-hua ZHANG | Wei-dong CAO
Axial flow pump is a kind of typical pumps with rotor-stator interaction, thus the measurement of the flow field between impeller and guide vane would facilitate the study of the internal rotor-stator...

9. Hydrodynamic optimization of a triswach
1 January 2015
Chi YANG | Fuxin HUANG | Hyunyul KIM
A new methodology for hydrodynamic optimization of a TriSWACH is developed, which considers not only the positions of the side hulls but also the shape of the side hulls. In order to account for the...

10. Interactions between vegetation, water flow and sediment transport: A review
February 2015
Chao WANG | Sha-sha ZHENG | Pei-fang WANG | Jun HOU
The vegetation, as one of the most important components, plays a key role in the aquatic environment. This paper reviews recent progress on the complex interaction between the vegetation and the water...

11. Finite Element Numerical Simulation of Three-Dimensional Seepage Control for Deep Foundation Pit Dewatering
October 2008
Zu-jiang LUO | Ying-ying ZHANG | Yong-xia WU
For deep foundation pit dewatering in the Yangtze River Delta, it is easy to make a dramatic decrease of the underground water level surrounding the dewatering area and cause land subsidence and geologic...

12. The mechanical response of piles with consideration of pile-soil interactions under a periodic wave pressure
1 January 2015
Huan-ling WANG | Wei-ya XU | Feng ZHU
The pile-soil interaction under wave loads is an extremely complex and difficult issue in engineering. In this study, a physical model test is designed based on the principle of the gravity similarity...

13. Hydrodynamic performance of distributed pump-jet propulsion system for underwater vehicle
1 September 2014
Xiao-jun LÜ | Qi-dou ZHOU | Bin FANG
A type of distributed pump-jet propulsion system (DPJP) is developed with two or four specially designed pump-jet pods located around the axisymmetric underwater vehicle body symmetrically. The flow...

April 2011
De-yuan ZHANG | Yue-hao LOU | Xiang LI | Hua-wei CHEN
It is well known that shark skin surface can effectively inhabit the occurrence of turbulence and reduce the wall friction, but in order to understand the mechanism of drag reduction, one has to solve...

15. Performance of the bio-inspired leading edge protuberances on a static wing and a pitching wing
1 January 2015
Ya-yun WANG | Wen-rong HU | Shi-dong ZHANG
It is shown that the leading edge protuberances on the flippers of a humpback whale can significantly improve the hydrodynamic performance. The present study numerically investigates the flow control...

16. Influences of soil hydraulic and mechanical parameters on land subsidence and ground fissures caused by groundwater exploitation
February 2014
Xing-xian CHEN | Zu-jiang LUO | Shi-ling ZHOU
In order to study the influences of hydraulic and mechanical parameters on land subsidence and ground fissure caused by groundwater exploitation, based on the Biot's consolidation theory and combined...

17. Numerical prediction of 3-D periodic flow unsteadiness in a centrifugal pump under part-load condition
April 2014
Ji PEI | Shou-qi YUAN | Xiao-jun LI | Jian-ping YUAN
Numerical simulation and 3-D periodic flow unsteadiness analysis for a centrifugal pump with volute are carried out in whole flow passage, including the impeller with twisted blades, the volute and...

18. A novel design of composite water turbine using CFD
February 2012
Ji-feng WANG | Janusz PIECHNA | Norbert MÜLLER
This paper presents computational investigation of a novel design of composite material axial water turbine using Computational Fluid Dynamics (CFD). Based on three-dimensional numerical flow analysis,...

19. Entropy generation in bypass transitional boundary layer flows
October 2014
Joseph GEORGE | Landon D. OWEN | Tao XING | Donald M. MCELIGOT | John C. CREPEAU | Ralph S. BUDWIG | Kevin P. NOLAN
The primary objective of this study is to evaluate the accuracy of using computational fluid dynamics (CFD) turbulence models to predict entropy generation rates in bypass transitional boundary layers...

20. New developments and propeller design
October 2010
G. Kuiper
The use of newly available tools in propeller design is discussed. It is stated that new tools are too much used to imitate experimental results. The paper takes a step back and investigates new approaches...

21. Theoretical and experimental studies of the transport process of micro-particles in static water
1 January 2015
Yi-fang HAN | Ning MEI
A theoretical model is established in this paper to investigate the micro-particle behavior in the static water. The forces acting on the micro-particles are analyzed to obtain a description of the...

22. Run-up of non-breaking double solitary waves with equal wave heights on a plane beach
1 January 2015
Jie DONG | Ben-long WANG | Hua LIU
The evolution and run-up of double solitary waves on a plane beach were studied numerically using the nonlinear shallow water equations (NSWEs) and the Godunov scheme. The numerical model was validated...
<table>
<thead>
<tr>
<th>No.</th>
<th>Title</th>
<th>Date</th>
<th>Authors</th>
<th>Abstract</th>
</tr>
</thead>
<tbody>
<tr>
<td>23</td>
<td>A drifting trajectory prediction model based on object shape and stochastic motion features</td>
<td>1 January 2015</td>
<td>Sheng-zheng WANG</td>
<td>Hao-bing NIE</td>
</tr>
<tr>
<td>24</td>
<td>Unsteady flow analysis and experimental investigation of axial-flow pump</td>
<td>February 2010</td>
<td>De-sheng ZHANG</td>
<td>Wei-dong SHI</td>
</tr>
<tr>
<td>25</td>
<td>Numerical prediction of submarine hydrodynamic coefficients using CFD simulation</td>
<td>December 2012</td>
<td>Yu-cun PAN</td>
<td>Huai-xin ZHANG</td>
</tr>
</tbody>
</table>