

1. Record Nr.	UNISALENT0991004265222107536
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Titolo	Calcolo scientifico : esercizi e problemi risolti con MATLAB e Octave / Alfio Quarteroni, Fausto Saleri, Paola Gervasio
Pubbl/distr/stampa	Milano : Springer-Verlag, 2017
ISBN	9788847039520
Edizione	[6. ed.]
Descrizione fisica	xx, 523 p. : ill. (some col.) ; 24 cm
Collana	Unitext. La matematica per il 3+2 ; 105
Classificazione	AMS 65-01 AMS 65-04 LC QA155.7
Altri autori (Persone)	Saleri, Faustoauthor Gervasio, Paolaauthor
Disciplina	512
Soggetti	Algebra - Computer programs Mathematical analysis
Lingua di pubblicazione	Italiano
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references (p. 507-514) and index

## 2. Record Nr.

UNINA9910957193103321

## Titolo

Advanced oxidation technologies : sustainable solutions for environmental treatments / / editors, Marta I. Litter, Remediation Technologies Division, Environmental Chemistry Department, Chemistry Management, National Atomic Energy Commission, Buenos Aires, Roberto J. Candal, National University of General San Martin, School of Science and Technology, J. Martin Meichtry, Remediation Technologies Division, Environmental Chemistry Department, Chemistry Management, National Atomic Energy Commission, Buenos Aires

## Pubbl/distr/stampa

Boca Raton : , : CRC Press, , [2014]

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## ISBN

1-317-69411-2  
0-429-22744-2  
1-315-77765-7

## Edizione

[1st ed.]

## Descrizione fisica

1 online resource (382 p.)

## Collana

Sustainable Energy Developments ; ; Volume 9

## Classificazione

SCI013000TEC010000TEC010030

## Disciplina

628.3/5

## Soggetti

Sewage - Purification - Oxidation  
Oxidation - Environmental aspects  
Sustainable engineering  
Environmental chemistry - Technique

## Lingua di pubblicazione

Inglese

## Formato

Materiale a stampa

## Livello bibliografico

Monografia

## Note generali

"A Balkema book."

## Nota di bibliografia

Includes bibliographical references at the end of each chapters and index.

## Nota di contenuto

Front Cover; About the book series; Editorial board; Table of contents; Contributors; Editors' foreword; About the editors; Acknowledgements; 1. Decontamination of water by solar irradiation; 2. Reduction of pentavalent and trivalent arsenic by TiO<sub>2</sub>-photocatalysis: An innovative way of arsenic removal; 3. Synthesis, characterization and catalytic evaluation of tungstophosphoric acid immobilized on Y zeolite; 4. Kinetic aspects of the photodegradation of phenolic and lactonic biocides under natural and artificial conditions  
5. Fenton-like oxidation of phenol with a Cu-chitosan/Al<sub>2</sub>O<sub>3</sub> catalyst in a recirculating batch reactor  
6. Degradation of a mixture of

glyphosate and 2,4-D in water solution employing the UV/H<sub>2</sub>O<sub>2</sub> process, including toxicity evaluation; 7. Degradation of perchlorate dissolved in water by a combined application of ion exchange resin and zerovalent iron nanoparticles; 8. Eco-friendly approach for Direct Blue 273 removal from an aqueous medium; 9. Decontamination of commercial chlorpyrifos in water using the UV/H<sub>2</sub>O<sub>2</sub> process 10. Abatement of nitrate in drinking water. A comparative study of photocatalytic and conventional catalytic technologies 11. Photocatalytic inactivation of airborne microorganisms. Performance of different TiO<sub>2</sub> coatings; 12. Water decontamination by heterogeneous photo-Fenton processes over iron, iron minerals and iron-modified clays; 13. Modified montmorillonite in photo-Fenton and adsorption processes; 14. Photocatalytic degradation of dichlorvos solution using TiO<sub>2</sub>-supported ZSM-11 zeolite 15. Water disinfection with UVC and/or chemical inactivation. Mechanistic differences, implications and consequences 16. Ag/AgCl composite material: synthesis, characterization and application in treating wastewater; 17. Highly photoactive Er<sup>3+</sup>-TiO<sub>2</sub> system by means of up-conversion and electronic cooperative mechanism; 18. Stabilized TiO<sub>2</sub> nanoparticles on clay minerals for air and water treatment; 19. Photodegradation of beta-blockers in water; 20. Final conclusions; Book series page

#### Sommario/riassunto

Providing a state-of-the-art overview on environmental applications of Advanced Oxidation Technologies (AOTs) as sustainable, low-cost and low-energy consuming treatments of water, air, and soil. It includes information on innovative research and development on TiO<sub>2</sub> photocatalytic redox processes, Fenton, Photo-Fenton processes, zerovalent iron technology, etc highlighting possible applications of ATOs in developing and industrialized countries around the world in the framework of a crosscutting and comprehensive look at environmental problems. Advanced Oxidation Technologies (AOTs) or Processes (AOPs) are relatively new and innovative technologies to remove harmful and toxic pollutants--