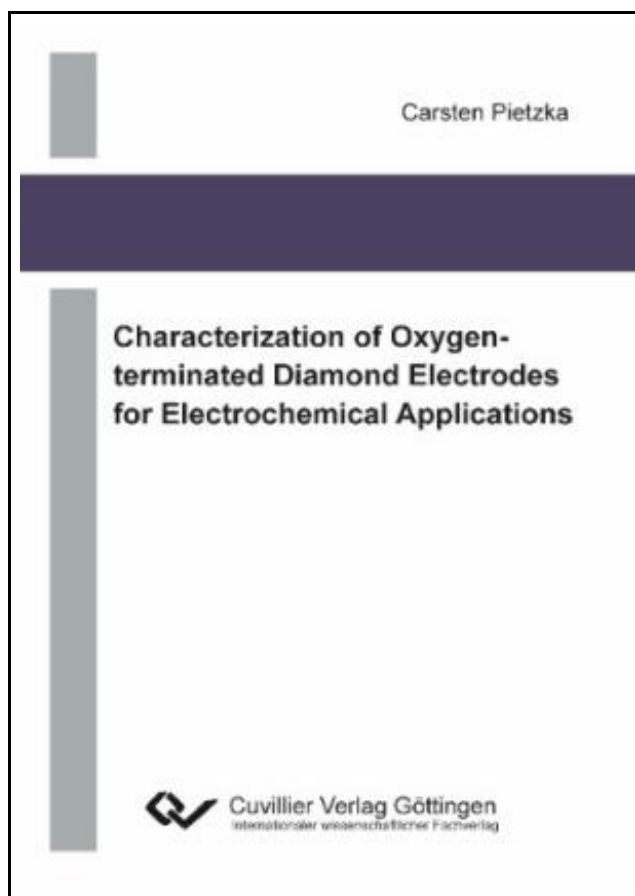


Characterization of Oxygen-terminated Diamond Electrodes for Electrochemical Applications



Filesize: 4.68 MB

Reviews

This sort of pdf is everything and got me to searching forward and a lot more. Of course, it is engage in, nevertheless an interesting and amazing literature. I realized this ebook from my i and dad encouraged this book to find out.

(Miss Bella Volkman Sr.)

CHARACTERIZATION OF OXYGEN-TERMINATED DIAMOND ELECTRODES FOR ELECTROCHEMICAL APPLICATIONS

DOWNLOAD



Cuvillier Verlag Apr 2011, 2011. Taschenbuch. Book Condition: Neu. 211x147x12 mm. Neuware - The topic of this thesis is the electrochemical characterization of oxygen-terminated single-crystal- and nanocrystalline diamond electrodes. Diamond is a very attractive material for bio- and electrochemical applications due to its exceptional stability, its biocompatibility, and its electrochemical properties like wide potential window of water dissociation and low background current. Therefore, diamond electrodes can operate even in harsh environments and under strongly oxidizing conditions, where electrochemical devices based on silicon or metals are corroded. Such applications can be e.g. pH sensing in strong acids and bases or the detection of organic molecules. However, the electrochemical characteristics of oxygen-terminated diamond electrodes are dependent on the surface oxidation treatment. This issue was investigated within this thesis using electrochemical measurement techniques like cyclic voltammetry or electrochemical impedance spectroscopy. The results were correlated with the analysis of X-ray photoemission (XPS) measurements. The XPS measurements showed that different oxidation treatments induced different carbon-oxygen surface groups on the diamond surface. Besides, plasma oxidation treatments could induce a significant amount of non-diamond phases in the surface-near region. The electrochemical measurements showed typical behaviour of oxygen-terminated diamond electrodes like a potential window of 3.0 - 3.5 V and low background currents within this window both for single-crystal and nanocrystalline diamond. However, the adsorption characteristics in cyclic voltammetry and the value of the electronic surface barrier in contact to the electrolyte were dependent on the choice of the oxidation treatment. The electronic surface barrier ranged from approx. 1.0 eV to 1.8 eV depending on the carbon-oxygen bonds and the amount of sp²-like defects. In addition, a severe plasma treatment including argon bombardment induced a non-diamond layer of several monolayers on the electrode surface. This layer could be removed by annealing in hydrogen plasma at approx. 700 °C, as shown...



[Read Characterization of Oxygen-terminated Diamond Electrodes for Electrochemical Applications Online](#)



[Download PDF Characterization of Oxygen-terminated Diamond Electrodes for Electrochemical Applications](#)

Relevant PDFs



Psychologisches Testverfahren

Reference Series Books LLC Nov 2011, 2011. Taschenbuch. Book Condition: Neu. 249x191x7 mm. This item is printed on demand - Print on Demand Neuware - Quelle: Wikipedia. Seiten: 100. Kapitel: Myers-Briggs-Typindikator, Keirsey Temperament Sorter, DISG,...

[Save Document »](#)



Programming in D

Ali Cehreli Dez 2015, 2015. Buch. Book Condition: Neu. 264x182x53 mm. This item is printed on demand - Print on Demand Neuware - The main aim of this book is to teach D to readers...

[Save Document »](#)



The Java Tutorial (3rd Edition)

Pearson Education, 2001. Softcover. Book Condition: Neu. Gebraucht - Sehr gut Unbenutzt. Schnelle Lieferung, Kartonverpackung. Abzugsfähige Rechnung. Bei Mehrfachbestellung werden die Versandkosten anteilig erstattet. - Praise for "The Java' Tutorial, Second Edition" includes: "This book...

[Save Document »](#)



Knock Knock! 150+ Knock Knock Jokes for Kids: Funny Jokes for Kids (Paperback)

Createspace Independent Publishing Platform, United States, 2015. Paperback. Book Condition: New. 203 x 127 mm. Language: English . Brand New Book ***** Print on Demand *****.Funny Knock Knock Jokes for Kids!Joke telling is very fun...

[Save Document »](#)



The Ultimate Knock Knock Jokes: Funny Knock Knock Jokes for Kids (Paperback)

Createspace Independent Publishing Platform, United States, 2015. Paperback. Book Condition: New. 203 x 127 mm. Language: English . Brand New Book ***** Print on Demand *****.Funny Knock Knock Jokes for Kids!Joke telling is very fun...

[Save Document »](#)



Kindergarten Culture in the Family and Kindergarten; A Complete Sketch of Froebel s System of Early Education, Adapted to American Institutions. for the Use of Mothers and Teachers (Paperback)

Rarebooksclub.com, United States, 2012. Paperback. Book Condition: New. 246 x 189 mm. Language: English . Brand New Book ***** Print on Demand *****.This historic book may have numerous typos and missing text. Purchasers can download

[Save ePub »](#)



DK Readers Robin Hood Level 4 Proficient Readers

DK CHILDREN. Paperback. Book Condition: New. Nick Harris (illustrator). Paperback. 48 pages. Dimensions: 8.4in. x 5.7in. x 0.2in. Discover the rollicking exploits of Robin and his merry men as they take from the rich and give

[Save ePub »](#)



TJ new concept of the Preschool Quality Education Engineering the daily learning book of: new happy learning young children (3-5 years) Intermediate (3)(Chinese Edition)

paperback. Book Condition: New. Ship out in 2 business day, And Fast shipping, Free Tracking number will be provided after the shipment. Paperback. Pub Date :2005-09-01 Publisher: Chinese children before making Reading: All books are the

[Save ePub »](#)



Southern Educational Review Volume 3 (Paperback)

Rarebooksclub.com, United States, 2012. Paperback. Book Condition: New. 246 x 189 mm. Language: English . Brand New Book ***** Print on Demand *****.This historic book may have numerous typos and missing text. Purchasers can download

[Save ePub »](#)



DK Reader Level 4 Extreme Machines DK READERS

DK CHILDREN. Paperback. Book Condition: New. Paperback. 48 pages. Dimensions: 9.0in. x 5.9in. x 0.2in. They were built to conquer land, sea, and air. Read about the biggest, fastest, most incredible machines in the world. These

[Save ePub »](#)