

Some recent publications

2020

Hinrichs, K.; Rappich, J.; Shaykhutdinov, T.: Field Manipulation of Infrared Absorption Properties in Thin Films. *Physica Status Solidi B* 257 (2020), p. 1900490/1-6

doi:10.1002/pssb.201900490

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Rappich, J.; Lang, F.; Brus, V.V.; Shargaieva, O.; Dittrich, T.; Nickel, N.H.: Light-induced defect generation in $\text{CH}_3\text{NH}_3\text{PbI}_3$ thin films and single crystals. *Solar RRL* 4 (2020), p. 1900216/1-6

doi:10.1002/solr.201900216

[Open Access Version](#) 


2019

Ennaceri, H.; Boujnah, M.; Erfurt, D.; Rappich, J.; Lifei, X.; Khaldoun, A.; Benyoussef, A.; Ennaoui, A.; Taleb, A.: Influence of stress on the photocatalytic properties of sprayed ZnO thin films. *Solar Energy Materials and Solar Cells* 201 (2019), p. 110058/1-13

doi:10.1016/j.solmat.2019.110058

Furchner, A.; Kratz, C.; Rappich, J.; Hinrichs, K.: Hyperspectral infrared laser polarimetry for single-shot phase-amplitude imaging of thin films. *Optics Letters* 44 (2019), p. 4893-4896

doi:10.1364/OL.44.004893

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Heredia, D.; Gonzalez Lopez, E.; Durantini, E.; Durantini, J.; Dittrich, T.; Rappich, J.; Macor, L.; Solis, C.; Morales, G.; Gervaldo, M.; Otero, L.: Electrochemical, spectroelectrochemical and surface photovoltage study of ambipolar C-60-EDOT and C-60-Carbazole based conducting polymers. *Electrochimica Acta* 311 (2019), p. 178-191


doi:10.1016/j.electacta.2019.04.103

Hänisch, J.; Hinrichs, K.; Rappich, J.: Surface Functionalization toward Biosensing via Free-Standing Si-OH Bonds on Nonoxidized Silicon Surfaces. *ACS Applied Materials & Interfaces* 11 (2019), p. 31434-31440

doi:10.1021/acscami.9b03583

Lang, F.; Jost, M.; Bundesmann, J.; Denker, A.; Albrecht, S.; Landi, G.; Neitzert, H.-C.; Rappich, J.; Nickel, N.H.: Efficient minority carrier detrapping mediating the radiation hardness of triple-cation perovskite solar cells under proton irradiation. *Energy & Environmental Science* 12 (2019), p. 1634-1647

doi:10.1039/c9ee00077a

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Tan, Q.; Hinrichs, K.; Mao-Dong, H.; Fengler, S.; Rappich, J.; Prajongtat, P.; Nickel, N.; Dittrich, T.: Temperature Dependent Diffusion of DMSO in $\text{CH}_3\text{NH}_3\text{PbI}_3$ Precursor Films during Layer Formation and Impact on Solar Cells. *ACS Applied Energy Materials* 2 (2019), p. 5116-5123

doi:10.1021/acsaem.9b00769

Xi, F.; Bogdanoff, P.; Harbauer, K.; Plate, P.; Höhn, C.; Rappich, J.; Wang, B.; Han, X.; Van De Krol, R.; Fiechter, S.: Structural Transformation Identification of Sputtered Amorphous MoS_x as an Efficient Hydrogen-Evolving Catalyst during Electrochemical Activation. *ACS Catalysis* 9 (2019), p. 2368-2380

doi:10.1021/acscatal.8b04884

2018

Brus, V.V.; Gluba, M.A.; Rappich, J.; Lang, F.; Kovalyuk, Z.; Maryanchuk, P.; Nickel, N. H.: Fine Art of Thermoelectricity. *ACS Applied Materials & Interfaces* 10 (2018), p. 4737-4742

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Kidakova, A.; Reut, J.; Rappich, J.; Öpik, A.; Syritski, V.: Preparation of a surface-grafted protein-selective polymer film by combined use of controlled/living radical photopolymerization and microcontact imprinting. *Reactive and Functional Polymers* 125 (2018), p. 47-56

doi:10.1016/j.reactfunctpolym.2018.02.004

Rappich, J.; Hinrichs, K.; Sun, G.; Zhang, X.: Application of In-Situ IR-Ellipsometry in Silicon Electrochemistry to Study Ultrathin Films. In: Karsten Hinrichs ... [Ed.] : Ellipsometry of functional organic surfaces and films / second edition. Cham: Springer, 2018 (Springer surface sciences; 52). - ISBN 978-3-319-75894-7, p. 459-479

doi:10.1007/978-3-319-75895-4_20

Roodenko, K.; Aureau, D.; Yang, F.; Thissen, P.; Rappich, J.: Characterization of Thin Organic Films with Surface-Sensitive FTIR Spectroscopy. In: Karsten Hinrichs ... [Ed.] : Ellipsometry of functional organic surfaces and films / second edition. Cham: Springer, 2018 (Springer series in surface sciences; 52). - ISBN 978-3-319-75894-7, p. 483-503

doi:10.1007/978-3-319-75895-4_21

Zellmeier, M.; Brenner, T.J.K.; Janietz, S.; Nickel, N.; Rappich, J.: Polythiophenes as emitter layers for crystalline silicon solar cells: Parasitic absorption, interface passivation, and open circuit voltage. *Journal of Applied Physics* 123 (2018), p. 033102/1-5

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2017

Adongo, J.O.; Neubert, T.J.; Sun, G.; Janietz, S.; Lauermann, I.; Rademann, K.; Rappich, J.: Fabrication and Characterization of Surfaces Modified with Carboxymethylthio Ligands for Chelate-Assisted Trapping of Copper. *ACS Applied Materials & Interfaces* 9 (2017), p. 24273-24281

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Hänisch, J.; Klimm, C.; Rappich, J.: Electropolishing and passivation of Silicon Nanowires towards hybrid interfaces. *Electrochimica Acta* 226 (2017), p. 46-52

doi:10.1016/j.electacta.2016.12.110

Rösicke, F.; Gluba, M. A.; Shaykhutdinov, T.; Sun, G.; Kratz, C.; Rappich, J.; Hinrichs, K.; Nickel, N.H.: Functionalization of any substrate using covalently modified large area CVD graphene. *Chemical Communications* 53 (2017), p. 9308 - 9311

doi:10.1039/C7CC03951D

Shargaieva, Oleksandra; Lang, Felix; Rappich, Jörg; Dittrich, Thomas; Klaus, Manuela; Meixner, Matthias; Genzel, Christoph; Nickel, Norbert H.: The influence of the grain size on the properties of $\text{CH}_3\text{NH}_3\text{PbI}_3$ thin films. *ACS Applied Materials & Interfaces* 9 (2017), p. 38428-38435

doi:10.1021/acsami.7b10056