

Dirk Lützenkirchen-Hecht

Einige ausgewählte Publikationen der letzten 5 Jahre zu den verschiedenen bearbeiteten Themen

Strukturuntersuchungen von Nanomaterialien, dünnen Schichten und Schichtsystemen:

K. Yuan, M. Qiu, D. Lützenkirchen-Hecht, X. Zhuang, Y. Chen, X. Feng, U. Scherf. "Boosting oxygen reduction of single iron active sites via geometric and electronic engineering: Nitrogen and phosphorus dual-coordination." J. Amer. Chem. Soc. 142 (2020) 2404 - 2412.

D. Lützenkirchen-Hecht, J. Stötzel, J. Just, O. Müller, B. Bornmann, R. Frahm. „Time resolved grazing incidence X-ray absorption spectroscopy for the in-situ investigation of the initial stages of sputter deposited copper thin films.“ Phys. Stat. Sol. a 219 (2022) 2100514

A. Šarić, M. Vrankić, D. Lützenkirchen-Hecht, I. Despotović, Ž. Dražić, G. Petrović, F. Eckelt. „An insight into the growth mechanism and photocatalytic behavior of tubular hierarchical ZnO structures: An integrated experimental and theoretical approach.“ Inorg. Chem. 61 (2022) 2962 – 2979.

F. Braun, F. Eckelt, L. Voss, P. Rothweiler, D. Lützenkirchen-Hecht. "Time-resolved in-situ investigation of Co-nitride thin film growth by grazing incidence X-ray absorption spectroscopy." Rad. Phys. Chem. 204 (2023) 110707 (1-6)

N. Schäfer, D. Günzing, T. Jiang, N. Karabas, A. Arzumanov, D. Motta-Meira, K. Ollefs, P. Komissinskiy, M. Major, M. Arnold, N. Pietralla, H. Wende, D. Lützenkirchen-Hecht, L. Alff. "Role of kinetic energy on Nb₃Sn thin films by low-temperature co-sputtering." J. Appl. Phys. 134 (2023) 043903 (1-7).

L. Voss, F. Braun, K. Maadour, D. Lützenkirchen-Hecht. "In-situ grazing incidence EXAFS measurements of the formation of NiAl intermetallic compounds in Ni-Al-multilayers by grazing incidence X-ray absorption spectroscopy." Phys. Stat. Sol. A (2024) 2400594

B. Huang, Q. Gu, X. Tang, D. Lützenkirchen-Hecht, K. Yuan, Y. Chen. "Experimentally Validating Sabatier Plot by Molecular Level Microenvironment Customization for Oxygen Electroreduction." Nature Commun. 15 (2024) 6077 (1-16)

Instrumentierung mit Röntgenstrahlung:

P. Serbun, V. Porshyn, D. Lützenkirchen-Hecht. „Advanced field emission measurement techniques for research on modern cold cathode materials and their applications for transmission-type x-ray sources.“ Rev. Sci. Instrum. 91 (2020) 083906 (1-19)

D. Lützenkirchen-Hecht, B. Bornmann, R. Frahm, P. Rothweiler, S. von Polheim, F. Eckelt, O. Müller. "Simultaneous quick-scanning X-ray absorption spectroscopy and X-ray diffraction." J. Phys. Conf. Ser. 2380 (2022) 012130 (1-6).

S. Praetz, D. Grötzsch, C. Schlesiger, D. Motz, M. Würth, R. Zimmerman, R. Lucka, W. Malzer, D. Lützenkirchen-Hecht, F. Renz, B. Kanngießner. "In situ heating cell for temperature dependent transmission XAS measurement with a laboratory based spectrometer". Rev. Sci. Instrum. 96 (2025) 035120 (1-10).

S. Paripsa, L. Voss, F. Braun, F. Eckelt, D. Lützenkirchen-Hecht. "Implementation of the quick-scanning EXAFS technique at DELTA beamline 10." Proc. SRI 2024 J. Phys. Conf. Ser. (2025), in print.

L. Voss, F. Braun, F. Eckelt, C. Schneider, D. Lützenkirchen-Hecht. "A new compact setup for in-situ grazing incidence X-ray experiments of solid and liquid samples." Proc. SRI 2024, J. Phys. Conf. Ser. (2025), in print.

Wechselwirkung von Laserlicht mit Materie:

V. Porshyn, P. Rothweiler, D. Lützenkirchen-Hecht. „Laser-processing of grinded and mechanically abraded Nb-surfaces.“ J. Laser Appl. 32 (2020) 042009 (1-10).

F. Brockner, D. Lützenkirchen-Hecht. "A versatile setup for nanosecond laser polishing processes with in-situ analysis capabilities." Rev. Sci. Instrum. 95 (2024) 043003 (1-10).

F. Brockner, D. Lützenkirchen-Hecht. "Simultaneous laser polishing and N-doping of niobium". Appl. Phys. Lett. 125 (2024) 201902 (1-7).

Datenthemen:

S. Paripsa, A. Gaur, F. Förste, D.E. Doronkin, W. Malzer, C. Schlesiger, B. Kanngießer, E. Welter, J.-D. Grunwaldt, D. Lützenkirchen-Hecht. "RefXAS: An Open Access database of X-ray absorption spectra." J. Synchrotron Rad. 31 (2024) 1105-1117.

D. Lützenkirchen-Hecht, C. Chantler (Eds.). „Synchrotron Data.“ Special Issue of Synchrotron Radiation News 37 (2024). p. 2-42.

S. Paripsa, A. Gaur, F. Förste, D.E. Doronkin, W. Malzer, C. Schlesiger, B. Kanngießer, E. Welter, J.-D. Grunwaldt, D. Lützenkirchen-Hecht. "RefXAS: an open access database of X-ray absorption spectra – improvements and outlook." Proc. SRI 2024, J. Phys. Conf. Ser. (2025), in print.