Schlussbericht

Förderinstrument:	**Helmholtz ERC Recognition Award**
Impulsfonds-Förderkennzeichen:	ERC-RA-0010
Grantee:	Sophie Canton
Helmholtz-Zentrum:	DESY
Berichtszeitraum (Förderzeitraum):	von 2017 bis 2018

Hinweis: Der Bericht kann sich auf 1-2 Seiten beschränken

1. Zusammenfassung

Wie wurde die Prämie verwendet und welche wesentlichen Ergebnisse wurden erzielt?
Wann wurde der ERC-Antrag wieder eingereicht?

The award has been used for hiring a postdoc and buying some chemicals+equipment that have allowed performing some of the experiments planned in the ERC proposal, including several successful runs at the European XFEL facility.
A new application to the ERC Advanced Grant was submitted in 2018.

2. Karriereentwicklung

Wie hat sich Ihre Karriere entwickelt?
Wie sieht Ihre weitere Karriereplanung aus?

I am now working as a group leader at the attosecond facility ELI-ALPS in Szeged, Hungary.

3. Publikationen und Preise

Asynchronous photoexcited electronic and structural relaxation in lead free perovskites
C. Liu, Y. Wang, H. Geng, T. Zhu, E. Ertekin, D. Gosztola, S. Yang, J. Huang, B. Yang, K. Han, **S. E. Canton**, Q. Kong, K. Zheng and X. Zhang
J. Am. Chem. Soc. (2019) in press

Finding intersections between electronic excited potential energy surfaces with simultaneous ultrafast X-ray scattering and spectroscopy
K. S. Kjær, T. B. van Driel, T. C. B. Harlang, K. Kunnus, K. Ledbetter, R. Hartsock, M. E. Reinhard, S. Koroidov, l. li, M. G. Laursen, E. Biasin, F. B. Hansen, P. Vester, M. Christensen, K. Haldrup, M. Meedom Nielsen, A. Dohn, M. Pápai, K. Braagaard Møller, P. Chabera, Y. Liu, H. Tatsuno, C. Timm, M. Jarenmark, J. Uhlig, V. Sundstrom, K. Warnmark, P. Persson, Z. Németh, D. Sárosiné Szemes, É. Bajnóczi, G. Vanko, R. Alonso Mori, J. M. Glownia, S. Nelson, M. Sikorski, D. Sokaras, **S. E. Canton**, H. Lemke and K. Gaffney
Chemical Science 10, 5749-5760 (2019)
Selected as **Editor's choice-Serena deBeer**

Visualizing the coordination-spheres of photoexcited transition metal complexes with ultrafast hard X-rays
D. Khakhulin, M. L. Lawson Daku, D. Leshchev, G Newby, M. Jarenmark, C. Bressler, M. Wulff and **S. E. Canton**

Phys. Chem. Chem. Phys. 21, 9277 - 9284 (2019)
Selected as **2019 PCCP HOT Articles**

Resolving the ultrafast changes of chemically-inequivalent metal-ligand bonds in photoexcited molecular complexes with transient X-ray absorption spectroscopy
J. Zhang, X. Zhang, K. Suarez-Alcantara, G. Jennings, C. A. Kurtz, L. M. Lawson Daku and **S. E. Canton**

ACS Omega 4, 6375–6381 (2019
Reconstruction of the time-dependent electronic wave packet arising from molecular autoionization
R. Y. Bello, **S. E. Canton**, D. Jelovina, J. D. Bozek, B. Rude, O. Smirnova, M. Y. Ivanov, A. Palacios and F. Martín
Science Advances 4, eaat3962 (2018)

Inter-phase charge and energy transfer in Ruddlesden-Popper 2D perovskites: Critical role of the spacing cations
K. Zheng, Y. Chen, Y. Sun, J. Chen, P. Chábera, R. Schaller, M. J. Al-Marri, **S. E. Canton**, Z. Liang and T Pullerits
J. Mater. Chem. A 6, 6244 (2018)

Inorganic ions assisted anisotropic growth of CsPbCl3 nanowires with surface passivation effect
Y. Tang, X. Cao, A. Honarfar, M. Abdellah, C. Chen, J. Avila, M.-C. Asensio, L. Hammarström, J. Sa, **S. E. Canton**, K. Zheng, T. Pullerits and Qijin Chi
ACS Appl. Mater. Interfaces 10, 29574 (2018)

Photostability and photodegradation processes in colloidal CsPbI3 perovskite quantum dots
R. An, F. Zhang, X. Zou, Y. Tang, M. Liang, I. Oshchapovskyy, Y. Liu, A. Honarfar, Y. Zhong, C. Li, H. Geng, J. Chen, **S. E Canton**, T. Pullerits and K. Zheng
ACS applied materials & interfaces 10, 39222 (2018)

Towards noble-metal-free dyads: ground and excited state tuning by a Cobalt dimethylglyoxime motif connected to an Iron N-heterocyclic carbene photosensitizer
P. Zimmer, L. Burkhardt, R. Schepper, K. Zheng, D. Gosztola, A. Neuba, U. Flörke, C. Wölper, R. Schoch, W. Gawelda, **S. E Canton** and M. Bauer
European Journal of Inorganic Chemistry, 48, 5203 (2018)

Solvent control of charge transfer excited state relaxation pathways in [Fe (2, 2'-bipyridine)(CN) 4] 2–
K. S. Kjær, K. Kunnus, T. C. B. Harlang, T. B Van Driel, K. Ledbetter, R. W. Hartsock, M. E. Reinhard, S. Koroidov, L. Li, M. G. Laursen, E. Biasin, F. B. Hansen, P. Vester, M. Christensen, K. Haldrup, M. M. Nielsen, P. Chabera, Y. Liu, H. Tatsuno, C. Timm, J. Uhlig, V. Sundström, Z. Németh, D. Sárosiné Szemes, É. Bajnóczi, G. Vankó, R. Alonso-Mori, James M Glownia, S. Nelson, M. Sikorski, D. Sokaras, H. T. Lemke, **S. E Canton**, K. Wärnmark, P. Persson, A. A. Cordones and K. J. Gaffney
Physical Chemistry Chemical Physics, 20, 4238 (2018)

Probing the impact of solvation on photoexcited spin crossover complexes with high-precision X-ray transient absorption spectroscopy
C. Liu, J. Zhang, L. M. Lawson Daku, D. Gosztola, **S. E. Canton**, X. Zhang
Journal of the American Chemical Society, 139, 17518 (2017)

Enhanced Size Selection in Two-Photon Excitation for CsPbBr3 Perovskite Nanocrystals
J. Chen, P. Chábera, T.Pascher, M. E. Messing, R. Schaller, **S. Canton**, K. Zheng and T. Pullerits
The journal of physical chemistry letters, 8, 5119 (2017)

Tuning the oxygen reduction activity and stability of Ni (OH) 2@ Pt/C catalysts through controlling Pt surface composition, strain, and electronic structure
F. Godínez-Salomón, C. P. Rhodes, K Suarez Alcantara, Q. Zhu, **S. E .Canton**, H.A. Calderon, J. L. Reyes-Rodríguez, M. A. Leyva and O. Solorza-Feria
Electrochimica Acta 247, 958 (2017)

Drastic difference between hole and electron injection through the gradient shell of Cd x Se y Zn 1− x S 1− y quantum dots
M. Abdellah, F. Poulsen, Q. Zhu, N. Zhu, K. Žídek, P. Chábera, A. Corti, T. Hansen, Q. Chi, **S. E. Canton**, K. Zheng and T. Pullerits
Nanoscale 9, 12503-12508 (2017)

4. Sonstiges, Kommentare

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