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- [1] B. Afra, M. Lang, T. Bierschenk, M. D. Rodriguez, W. J. Weber, C. Trautmann, R. C. Ewing, N. Kirby, and P. Kluth. Annealing behaviour of ion tracks in olivine, apatite and britholite. *Nuclear instruments & methods in physics research / B*, 326:126 – 130, 2014.
- [2] B. Afra, K. Nordlund, M. D. Rodriguez, T. Bierschenk, C. Trautmann, S. Mudie, and P. Kluth. Thermal response of nanoscale cylindrical inclusions of amorphous silica embedded in α -quartz. *Physical review / B*, 90(22):224108, 2014.
- [3] M. Ali, P. Ramirez, S. Nasir, Q.-H. Nguyen, W. Ensinger, and S. Mafe. Current rectification by nanoparticle blocking in single cylindrical nanopores. *Nanoscale*, 6(18):10740, 2014.
- [4] M. Ali, P. Ramirez, S. Nasir, Q.-H. Nguyen, W. Ensinger, and S. Mafe. Nanoparticle-induced rectification in a single cylindrical nanopore: Net currents from zero time-average potentials. *Applied physics letters*, 104(4):043703 –, 2014.
- [5] P. Y. Apel, I. V. Blonskaya, O. L. Orelovich, B. Sartowska, and R. Spohr. Radiation effects of swift heavy ions in polymers: Determination of nanoshapes from electroconductivity. *Nuclear instruments & methods in physics research / B*, 326:158 – 162, 2014.
- [6] B. Aurand, B. Elkin, L.-O. Heim, B. Lommel, B. Kindler, M. Tomut, C. Rödel, S. Kuschel, O. Jäckel, and T. Kuehl. Ultra-thin polymer foils for laser-ion acceleration. *Journal of radioanalytical and nuclear chemistry*, 299(2):965 – 968, 2014.
- [7] D. Bernhardt, A. Becker, M. Grieser, M. Hahn, C. Krantz, M. Lestinsky, O. Novotný, R. Repnow, D. W. Savin, K. Spruck, A. Wolf, A. Müller, and S. Schippers. Absolute rate coefficients for photorecombination and electron-impact ionization of magnesiumlike iron ions from measurements at a heavy-ion storage ring. *Physical review / A*, 90(1):012702, 2014.
- [8] T. Beyer, K. Blaum, M. Block, C. E. Düllmann, K. Eberhardt, M. Eibach, N. Frömmgen, C. Geppert, C. Gorges, J. Grund, M. Hammen, S. Kaufmann, A. Krieger, S. Nagy, W. Nörtherhäuser, D. Renisch, C. Smorra, and E. Will. An RFQ cooler and buncher for the TRIGA-SPEC experiment. *Applied physics / B*, 114(1-2):129 – 136, 2014.
- [9] T. Bierschenk, B. Afra, M. D. Rodriguez, R. Giulian, C. Trautmann, S. Mudie, M. C. Ridgway, and P. Kluth. Effect of electronic energy loss on ion track formation in amorphous Ge. *Nuclear instruments & methods in physics research / B*, 326:113 – 116, 2014.
- [10] A. Bondarevskaya, E. A. Mistonova, K. N. Lyashchenko, O. Y. Andreev, A. Surzhykov, L. N. Labzowsky, G. Plunien, D. Liesen, F. Bosch, and T. Stöhlker. Method for the production of highly charged ions with polarized nuclei and zero total electron angular momentum. *Physical review / A*, 90(6):064701, 2014.
- [11] A. Borschevsky, V. Pershina-Naegele, E. Eliav, and U. Kaldor. Relativistic coupled cluster study of diatomic compounds of Hg, Cn, and Fl. *The journal of chemical physics*, 141(8):084301 –, 2014.
- [12] B. Botermann, D. Bing, C. Geppert, G. Gwinner, T. W. Hänsch, G. Huber, S. Karpuk, A. Krieger, T. Kühl, W. Nörtherhäuser, C. Novotny, S. Reinhardt, R. Sánchez, D. Schwalm, T. Stöhlker, A. Wolf, and G. Saathoff. Test of Time Dilation Using Stored Li^+ Ions as Clocks at Relativistic Speed. *Physical review letters*, 113(12):120405, 2014.
- [13] A. Bret, A. R. Piriz, and N. A. Tahir. Imprint reduction in rotating heavy ions beam energy deposition. *Nuclear instruments & methods in physics research / A*, 733:200–202, 2014.
- [14] S. Busold, A. Almomani, V. Bagnoud, W. Barth, S. Bedacht, A. Blažević, O. Boine-Frankenheim, C. Brabetz, T. Burris-Mog, T. E. Cowan, O. Deppert, M. Droba, H. Eickhoff, U. Eisenbarth, K. Harres, G. Hoffmeister, I. Hofmann, O. Jaeckel, R. Jaeger, M. Joost, S. Kraft, F. Kroll, M. Kaluza, O. Kester, Z. Lecz, T. Merz, F. Nürnberg, H. Al-Omari, A. Orzechovskaya, G. Paulus, J. Polz, U. Ratzinger, M. Roth, G. Schaumann, P. Schmidt, U. Schramm, G. Schreiber, D. Schumacher, T. Stoehlker, A. Tauschwitz, W. Vinzenz, F. Wagner, S. Yaramyshev, and B. Zielbauer. Shaping laser accelerated ions for future applications - The LIGHT collaboration. *Nuclear instruments & methods in physics research / A*, 740:94–98, 2014.
- [15] S. Busold, K. Philipp, A. Otten, and M. Roth. Image plate characterization and absolute calibration to low kiloelectron-volt electrons. *Review of scientific instruments*, 85(11):113306 –, 2014. ISI:000345646000258.
- [16] S. Busold, D. Schumacher, O. Deppert, C. Brabetz, F. Kroll, A. Blazevic, V. Bagnoud, and M. Roth. Commissioning of a compact laser-based proton beam line for high intensity bunches around 10 MeV. *Physical review / Special topics / Accelerators and beams*, 17:031302, 2014.
- [17] W. Chen, G. Vorobyev, D. Guo, F. Herfurth, P.-M. Hillenbrand, U. Spillmann, S. Trotsenko, A. Gumberidze, and T. Stöhlker. Metal vapor target for precise studies of ion-atom collisions. *Review of scientific instruments*, 85(5):053513, 2014.
- [18] J.-M. Costantini, C. Trautmann, W. J. Weber, and T. Wiss.

- [Editorial] EMRS 2013 syposium M. *Nuclear instruments & methods in physics research / B*, 327:1, 2014.
- [19] T. Döppner, A. L. Kritcher, P. Neumayer, D. Kraus, B. Bachmann, S. Burns, R. W. Falcone, S. H. Glenzer, J. Hawreliak, A. House, O. L. Landen, S. LePape, T. Ma, A. Pak, and D. Swift. Qualification of a high-efficiency, gated spectrometer for x-ray Thomson scattering on the National Ignition Facility^{a)}. *Review of scientific instruments*, 85(11):11D617 –, 2014.
- [20] A. Daultbekova, K. Schwartz, M. V. Sorokin, A. Rusakova, M. Baizhumanov, A. Akilbekov, M. Zdorovets, and M. Koloberdin. F center creation and aggregation in LiF crystals irradiated with ^{14}N , ^{40}Ar , and ^{84}Kr ions. *Nuclear instruments & methods in physics research / B*, 326:311 – 313, 2014.
- [21] D. Denis-Petit, M. Comet, T. Bonnet, F. Hannachi, F. Gobet, M. Tariesien, M. Versteegen, G. Gosselin, V. Méot, P. Morel, J.-C. Pain, F. Gilleron, A. Frank, V. Bagnoud, A. Blazevic, F. Dorchie, O. Peyrusse, W. Cayzac, and M. Roth. Identification of X-ray spectra in the Na-like to O-like rubidium ions in the range of $3.8\text{--}7.3a^\circ$. *Journal of quantitative spectroscopy & radiative transfer*, 148:70 – 89, 2014.
- [22] S. Depierreux, V. Yahia, C. Goyon, G. Loisel, P. E. Masson-Laborde, N. Borisenko, A. Orekhov, O. Rosmej, T. Rienecker, and C. Labaune. Laser light triggers increased Raman amplification in the regime of nonlinear Landau damping. *Nature Communications*, 5:4158, 2014.
- [23] C. Deutsch, N. A. Tahir, M. Barriga-Carrasco, V. Ceban, P. Fromy, D. Gilles, D. Leger, G. Maynard, B. Tashev, and L. Volpe. Multiple scattering in electron fluid and energy loss in multi-ionic targets. *Nuclear instruments & methods in physics research / A*, 733:39–44, 2014.
- [24] A. Estradé, R. Kanungo, W. Horiuchi, F. Ameil, J. Atkinson, Y. Ayyad, D. Cortina-Gil, I. Dillmann, A. Evdokimov, F. Farinon, H. Geissel, G. Guastalla, R. Janik, M. Kimura, R. Knöbel, J. Kurcewicz, Y. Litvinov, M. Marta, M. Mostazo, I. Mukha, C. Nociforo, H. Ong, S. Pietri, A. Prochazka, C. Scheidenberger, B. Sitar, P. Strmen, Y. Suzuki, M. Takechi, J. Tanaka, I. Tanihata, S. Terashima, J. Vargas, H. Weick, and J. Winfield. Proton Radii of $^{12-17}\text{B}$ Define a Thick Neutron Surface in ^{17}B . *Physical review letters*, 113(13):132501, 2014.
- [25] S. Faik, A. Tauschwitz, M. Basko, J. A. Maruhn, O. Rosmej, T. Rienecker, V. G. Novikov, and A. S. Grushin. Creation of a homogeneous plasma column by means of hohlraum radiation for ion-stopping measurements. *High energy density physics*, 10:47 – 55, 2014.
- [26] C. Florica, E. Matei, A. Costas, M. E. Toimil Molares, and I. Enculescu. Field Effect Transistor with Electrodeposited ZnO Nanowire Channel. *Electrochimica acta*, 137:290 – 297, 2014.
- [27] X. Gao, Y.-J. Yuan, J.-c. Yang, S. Litvinov, M. Wang, Y. Litvinov, W. Zhang, D.-Y. Yin, G.-D. Shen, W.-p. Chai, J. Shi, and P. Shang. Isochronicity corrections for isochronous mass measurements at the HIRFL-CSRE. *Nuclear instruments & methods in physics research / A*, 763:53 – 57, 2014.
- [28] S. Granville, E. Matei, I. Enculescu, and M. E. Toimil Molares. Cu codoping control over magnetic precipitate formation in ZnCoO nanowires. *Applied physics letters*, 105(25):252403, 2014.
- [29] J. Gunst, Y. Litvinov, C. H. Keitel, and A. Pálffy. Dominant Secondary Nuclear Photoexcitation with the X-Ray Free-Electron Laser. *Physical review letters*, 112(8):082501, 2014.
- [30] M. Hahn, N. R. Badnell, M. Grieser, C. Krantz, M. Lestinsky, A. Müller, O. Novotný, R. Repnow, S. Schippers, A. Wolf, and D. W. Savin. Electron-ion recombination of Fe^{12+} forming Fe^{11+} : laboratory measurements and theoretical calculations. *The astrophysical journal / I*, 788(1):46 – 53, 2014.
- [31] A. G. Hayrapetyan, O. Matula, A. Aiello, A. Surzhykov, and S. Fritzsche. Interaction of Relativistic Electron-Vortex Beams with Few-Cycle Laser Pulses. *Physical review letters*, 112(13):134801, 2014.
- [32] P.-M. Hillenbrand, S. Hagmann, D. Atanasov, D. Banaś, K.-H. Blumenhagen, C. Brandau, W. Chen, E. De Filippo, A. Gumberidze, D. L. Guo, D. H. Jakubassa-Amundsen, O. Kovtun, C. Kozhuharov, M. Lestinsky, Y. Litvinov, A. Müller, R. A. Müller, H. Rothard, S. Schippers, M. S. Schöffler, U. Spillmann, A. Surzhykov, S. Trotsenko, N. Winckler, X. L. Yan, V. A. Yerokhin, X. L. Zhu, and T. Stöhlker. Radiative-electron-capture-to-continuum cusp in $\text{U}^{88+} + \text{N}_2$ collisions and the high-energy endpoint of electron-nucleus bremsstrahlung. *Physical review / A*, 90(2):022707, 2014.
- [33] P.-M. Hillenbrand, S. Hagmann, A. B. Voitkiv, B. Najjari, D. Banaś, K.-H. Blumenhagen, C. Brandau, W. Chen, E. De Filippo, A. Gumberidze, D. L. Guo, C. Kozhuharov, M. Lestinsky, Y. Litvinov, A. Müller, H. Rothard, S. Schippers, M. S. Schöffler, U. Spillmann, S. Trotsenko, X. L. Zhu, and T. Stöhlker. Electron-loss-to-continuum cusp in $\text{U}^{88+} + \text{N}_2$ collisions. *Physical review / A*, 90(4):042713, 2014.
- [34] U. H. Hossain, V. Lima, O. Baake, D. Severin, M. Bender, and W. Ensinger. On-line and post irradiation analysis of swift heavy ion induced modification of PMMA (polymethyl-methacrylate). *Nuclear instruments & methods in physics research / B*, 326:135 – 139, 2014.
- [35] U. H. Hossain, F. Muench, and W. Ensinger. A comparative study on degradation characteristics of fluoropolymers irradiated by high energy heavy ions. *RSC Advances*, 4(91):50171 – 50179, 2014.
- [36] U. H. Hossain, T. Seidl, and W. Ensinger. Combined in situ infrared and mass spectrometric analysis of high-energy heavy ion induced degradation of polyvinyl polymers. *Polymer chemistry*, 5(3):1001 – 1012, 2014.
- [37] L. M. Innes, C.-H. Chen, M. Schiel, M. Pevarnik, F. Haurais, M. E. Toimil Molares, I. Vlasiouk, L. Theogarajan, and Z. S. Siwy. Velocity Profiles in Pores with Undulating Opening Diameter and Their Importance for Resistive-Pulse Experiments. *Analytical chemistry*, 86(20):10445 – 10453, 2014.
- [38] P. Jagodziński, M. Pajek, D. Banaś, H. Beyer, M. Trassinelli, and T. Stöhlker. Ray-tracing simulations of spherical Johann diffraction spectrometer for

- in-beam X-ray experiments. *Nuclear instruments & methods in physics research / A*, 753:121 – 130, 2014.
- [39] T. Jahrsetz, S. Fritzsche, and A. Surzhykov. Inelastic Raman scattering of light by hydrogenlike ions. *Physical review / A*, 89(4):042501, 2014.
- [40] D. Jakubaša-Amundsen, R. Müller, A. Surzhykov, and V. Yerokhin. Relativistic theory for radiative forward electron emission in heavy ion-atom encounters. *The European physical journal / D*, 68(12):367, 2014.
- [41] C. Jean, L. Belliard, T. W. Cornelius, O. Thomas, M. E. Toimil Molares, M. Cassinelli, L. Becerra, and B. Perrin. Direct Observation of Gigahertz Coherent Guided Acoustic Phonons in Free-Standing Single Copper Nanowires. *The journal of physical chemistry letters*, 5(23):4100 – 4104, 2014.
- [42] M. Kühnel, J. M. Fernández, F. Tramonto, G. Tejada, E. Moreno, A. Kalinin, M. Nava, D. E. Galli, S. Montero, and R. Grisenti. Observation of crystallization slowdown in supercooled parahydrogen and orthodeuterium quantum liquid mixtures. *Physical review / B*, 89(18):180201, 2014.
- [43] A. V. Kantsyrev, A. A. Golubev, A. V. Bogdanov, V. S. Demidov, E. V. Demidova, E. M. Ladygina, N. V. Markov, V. S. Skachkov, G. N. Smirnov, I. V. Rudskoy, A. P. Kuznetsov, A. V. Khudomyasov, B. Y. Sharkov, S. V. Dudin, S. A. Kolesnikov, V. B. Mintsev, D. N. Nikolaev, V. Y. Ternovoi, A. V. Utkin, D. S. Yuriev, N. S. Shilkin, V. E. Fortov, V. I. Turtikov, V. V. Burtsev, M. V. Zhernokletov, N. V. Zavialov, S. A. Kartanov, A. L. Mikhailov, A. V. Rudnev, M. V. Tatsenko, D. Varentsov, and L. Shestov. TWAC-ITEP proton microscopy facility. *Instruments and experimental techniques*, 57(1):1 – 10, 2014.
- [44] Y. S. Kozhedub, V. M. Shabaev, I. I. Tupitsyn, A. Gumberidze, S. Hagmann, G. Plunien, and T. Stöhlker. Relativistic calculations of x-ray emission following a $Xe - Bi^{83+}$ collision. *Physical review / A*, 90(4):042709, 2014.
- [45] S. Kraft-Bermuth, V. Andrianov, A. Bleile, A. Echler, P. Egelhof, P. Grabitz, C. Kilbourne, O. Kiselev, D. McCammon, and P. Scholz. Precise Determination of the Lyman- α 1 Transition Energy in Hydrogen-like Gold Ions with Microcalorimeters. *Journal of low temperature physics*, 176(5-6):1002 – 1008, 2014.
- [46] K. Kreim, M. L. Bissell, J. Papuga, K. Blaum, M. De Rydt, R. F. Garcia Ruiz, S. Goriely, H. Heylen, M. Kowalska, R. Neugart, G. Neyens, W. Nörtershäuser, M. M. Rajabali, R. Sánchez Alarcón, H. H. Stroke, and D. T. Yordanov. Nuclear charge radii of potassium isotopes beyond. *Physics letters / B*, 731:97 – 102, 2014.
- [47] S. Kreim, D. Beck, K. Blaum, C. Borgmann, M. Breitenfeldt, T. E. Cocolios, A. Gottberg, F. Herfurth, M. Kowalska, Y. Litvinov, D. Lunney, V. Manea, T. M. Mendonca, S. Naimi, D. Neidherr, M. Rosenbusch, L. Schweikhard, T. Stora, F. Wienholtz, R. N. Wolf, and K. Zuber. Competition between pairing correlations and deformation from the odd-even mass staggering of francium and radium isotopes. *Physical review / C*, 90(2):024301, 2014.
- [48] B. Kuttich, M. Engel, C. Trautmann, and B. Stühn. Tailored nanochannels of nearly cylindrical geometry analysed by small angle X-ray scattering. *Applied physics / A*, 114(2):387 – 392, 2014.
- [49] M. Lang, M. Toulemonde, J. Zhang, F. Zhang, C. L. Tracy, J. Lian, Z. Wang, W. J. Weber, D. Severin, M. Bender, C. Trautmann, and R. C. Ewing. Swift heavy ion track formation in $Gd_2Zr_{2-x}Ti_xO_7$ pyrochlore: Effect of electronic energy loss. *Nuclear instruments & methods in physics research / B*, 336:102 – 115, 2014.
- [50] M. Lang, F. Zhang, J. Zhang, C. L. Tracy, A. B. Cusick, J. VonEhr, Z. Chen, C. Trautmann, and R. C. Ewing. Swift heavy ion-induced phase transformation in Gd_2O_3 . *Nuclear instruments & methods in physics research / B*, 326:121 – 125, 2014.
- [51] K. Li, B. Borm, F. Hug, D. Khaghani, B. Löher, D. Savran, N. A. Tahir, and P. Neumayer. Developments toward hard X-ray radiography on heavy-ion heated dense plasmas. *Laser and particle beams*, 32(04):631 – 637, 2014.
- [52] W. Li, P. Kluth, D. Schauries, M. D. Rodriguez, M. Lang, F. Zhang, M. Zdorovets, C. Trautmann, and R. C. Ewing. Effect of orientation on ion track formation in apatite and zircon. *American mineralogist*, 99(5-6):1127 – 1132, 2014.
- [53] Y. Litvinov, M. Palczewski, E. A. Cherepanov, and A. Sobiczewski. Illustration of accuracy of presently used nuclear-mass models. *Acta physica Polonica / B*, 45(10):1979 – 1991, 2014.
- [54] M. Lochmann, R. Jöhren, C. Geppert, Z. Anđelković, D. Anielski, B. Botermann, M. Bussmann, A. Dax, N. Frömmgen, M. Hammen, V. Hannen, T. Kühl, Y. A. Litvinov, R. López-Coto, T. Stöhlker, R. C. Thompson, J. Vollbrecht, A. Volotka, C. Weinheimer, W. Wen, E. Will, D. Winters, R. Sánchez, and W. Nörtershäuser. Observation of the hyperfine transition in lithium-like bismuth $^{209}Bi^{80+}$: Towards a test of QED in strong magnetic fields. *Physical review / A*, 90(3):030501, 2014.
- [55] B. Marx, K. S. Schulze, I. Uschmann, T. Kämpfer, O. Wehrhan, H. C. Wille, K. Schlage, R. Röhlberger, E. Weckert, E. Förster, T. Stöhlker, and G. G. Paulus. High precision measurement of undulator polarization in the regime of hard x-rays. *Applied physics letters*, 105(2):024103, 2014.
- [56] O. Matula, A. G. Hayrapetyan, V. G. Serbo, A. Surzhykov, and S. Fritzsche. Radiative capture of twisted electrons by bare ions. *New journal of physics*, 16(5):053024 –, 2014.
- [57] R. Miletich, K. S. Scheidl, M. Schmitt, A. P. Moissl, T. Pipping, G. D. Gatta, B. Schuster, and C. Trautmann. Static elasticity of cordierite I: Effect of heavy ion irradiation on the compressibility of hydrous cordierite. *Physics and chemistry of minerals*, 41(8):579 – 591, 2014.
- [58] F. Muench, S. Bohn, M. Rauber, T. Seidl, A. Radetinac, U. Kunz, S. Lauterbach, H.-J. Kleebe, C. Trautmann, and W. Ensinger. Polycarbonate activation for electroless plating by dimethylaminoborane absorption and subsequent nanoparticle deposition. *Applied physics / A*, 116(1):287 – 294, 2014.
- [59] F. Muench, A. Eils, M. E. Toimil-Molares, U. H. Hossain, A. Radetinac, C. Stegmann, U. Kunz, S. Lauterbach, H.-J. Kleebe, and W. Ensinger. Polymer activation by reducing agent absorption as a flexible tool for the creation of metal films and nanostructures by electroless plating. *Surface and coatings technology*, 242:100 – 108, 2014.

- [60] F. Muench, T. Seidl, M. Rauber, B. Peter, J. Brötz, M. Krause, C. Trautmann, C. Roth, S. Katusic, and W. Ensinger. Hierarchically porous carbon membranes containing designed nanochannel architectures obtained by pyrolysis of ion-track etched polyimide. *Materials chemistry and physics*, 148(3):846 – 853, 2014.
- [61] S. Nasir, M. Ali, P. Ramirez, V. Gómez, B. Oschmann, F. Muench, M. Nawaz Tahir, R. Zentel, S. Mafe, and W. Ensinger. Fabrication of Single Cylindrical Au-Coated Nanopores with Non-Homogeneous Fixed Charge Distribution Exhibiting High Current Rectifications. *ACS applied materials & interfaces*, 6(15):12486 – 12494, 2014.
- [62] A. Osipowicz and B. Zipfel. Electron optical imaging properties of the KATRIN high field solenoid chain. *Nuclear instruments & methods in physics research / A*, 760:68 – 72, 2014.
- [63] J. Papuga, M. L. Bissell, K. Kreim, C. Barbieri, K. Blaum, M. De Rydt, T. Duguet, R. F. Garcia Ruiz, H. Heylen, M. Kowalska, R. Neugart, G. Neyens, W. Nörtershäuser, M. M. Rajabali, R. Sánchez, N. Smirnova, V. Somà, and D. T. Yordanov. Shell structure of potassium isotopes deduced from their magnetic moments. *Physical review / C*, 90(3):034321, 2014.
- [64] S. Park, M. Lang, C. L. Tracy, J. Zhang, F. Zhang, C. Trautmann, P. Kluth, M. D. Rodriguez, and R. C. Ewing. Swift heavy ion irradiation-induced amorphization of $La_2Ti_2O_7$. *Nuclear instruments & methods in physics research / B*, 326:145 – 149, 2014.
- [65] A. R. Piriz, Y. B. Sun, and N. A. Tahir. Rayleigh-Taylor linear growth at an interface between an elastoplastic solid and a viscous liquid. *Physical review / E*, 89(6):063022, 2014.
- [66] J. Prokúpek, J. Kaufman, D. Margarone, M. Krüs, A. Velyhan, J. Krása, T. Burris-Mog, S. Busold, O. Deppert, T. E. Cowan, and G. Korn. Development and first experimental tests of Faraday cup array. *Review of scientific instruments*, 85(1):013302, 2014.
- [67] R. Reifarth and Y. Litvinov. Measurements of neutron-induced reactions in inverse kinematics. *Physical review / Special topics / Accelerators and beams*, 17(1).
- [68] M. D. Rodriguez, W. X. Li, F. Chen, C. Trautmann, T. Bierschenk, B. Afra, D. Schauries, R. C. Ewing, S. T. Mudie, and P. Kluth. SAXS and TEM investigation of ion tracks in neodymium-doped yttrium aluminium garnet. *Nuclear instruments & methods in physics research / B*, 326:150 – 153, 2014.
- [69] D. Schauries, B. Afra, T. Bierschenk, M. Lang, M. D. Rodriguez, C. Trautmann, W. Li, R. C. Ewing, and P. Kluth. The shape of ion tracks in natural apatite. *Nuclear instruments & methods in physics research / B*, 326:117 – 120, 2014.
- [70] K. S. Scheidl, G. D. Gatta, T. Pippinger, B. Schuster, C. Trautmann, and R. Miletich. Static elasticity of cordierite II: effect of molecular CO_2 channel constituents on the compressibility. *Physics and chemistry of minerals*, 41(8):617 – 631, 2014.
- [71] R. Schmidt, J. Blanco Sancho, F. Burkart, D. Grenier, D. Wollmann, N. A. Tahir, A. Shutov, and A. R. Piriz. First experimental evidence of hydrodynamic tunneling of ultra-relativistic protons in extended solid copper target at the CERN HiRadMat facility. *Physics of plasmas*, 21(8):080701, 2014.
- [72] H. M. Scholz-Marggraf, S. Fritzsche, V. G. Serbo, A. Afanasev, and A. Surzhykov. Absorption of twisted light by hydrogenlike atoms. *Physical review / A*, 90(1):013425, 2014.
- [73] K. S. Schulze, B. Marx, I. Uschmann, E. Förster, T. Stöhlker, and G. G. Paulus. Determination of the polarization state of x rays with the help of anomalous transmission. *Applied physics letters*, 104(15):151110, 2014.
- [74] J. Schwartz, S. Aloni, D. F. Ogletree, M. Tomut, M. Bender, D. Severin, C. Trautmann, I. W. Rangelow, and T. Schenkel. Local formation of nitrogen-vacancy centers in diamond by swift heavy ions. *Journal of applied physics*, 116(21):214107, 2014.
- [75] L. Senje, M. Yeung, B. Aurand, S. Kuschel, C. Rödel, F. Wagner, K. Li, B. Dromey, V. Bagnoud, P. Neumayer, M. Roth, C.-G. Wahlström, M. Zepf, T. Kuehl, and D. Jung. Diagnostics for studies of novel laser ion acceleration mechanisms. *Review of scientific instruments*, 85(11):113302, 2014.
- [76] B. Sharkov and D. Varentsov. Experiments on extreme states of matter towards HIF at FAIR. *Nuclear instruments & methods in physics research / A*, 733:238 – 241, 2014.
- [77] P. Shuai, H. S. Xu, X. L. Tu, Y. H. Zhang, B. H. Sun, M. Wang, Y. Litvinov, K. Blaum, X. H. Zhou, J. J. He, Y. Sun, K. Kaneko, Y. J. Yuan, J. W. Xia, J. C. Yang, G. Audi, X. L. Yan, X. C. Chen, G. B. Jia, Z. G. Hu, X. W. Ma, R. S. Mao, B. Mei, Z. Y. Sun, S. T. Wang, G. Q. Xiao, X. Xu, T. Yamaguchi, Y. Yamaguchi, Y. D. Zang, H. W. Zhao, T. C. Zhao, W. Zhang, and W. L. Zhan. Charge and frequency resolved isochronous mass spectrometry and the mass of ^{51}Co . *Physics letters / B*, 735:327 – 331, 2014.
- [78] V. Sivakov, E. Y. Kaniukov, A. V. Petrov, O. V. Korolik, A. V. Mazanik, A. Bochmann, S. Teichert, I. J. Hidi, A. Schleusener, D. Cialla, M. Eugenia Toimil-Molares, C. Trautmann, J. Popp, and S. E. Demyanov. Silver nanostructures formation in porous Si/SiO₂ matrix. *Journal of crystal growth*, 400:21 – 26, 2014.
- [79] C. Smorra, K. Blaum, K. Franke, Y. Matsuda, A. Mooser, H. Nagahama, C. Ospelkaus, W. Quint, G. Schneider, S. Van Gorp, J. Walz, Y. Yamazaki, and S. Ulmer. Towards a high-precision measurement of the antiproton magnetic moment. *Hyperfine interactions*, 228(1-3):31 – 36, 2014.
- [80] A. Sobiczewski and Y. Litvinov. Accuracy of theoretical descriptions of nuclear masses. *Physical review / C*, 89(2):024311, 2014.
- [81] A. Sobiczewski and Y. Litvinov. Predictive power of nuclear-mass models. *Physical review / C*, 90(1):017302, 2014.
- [82] M. V. Sorokin, K. Schwartz, C. Trautmann, A. Dauletbekova, and A. S. El-Said. Modeling of defect accumulation in lithium fluoride crystals under irradiation with swift ions. *Nuclear instruments & methods in physics research / B*, 326:307 – 310, 2014.

- [83] T. Stöhlker, Y. A. Litvinov, A. Bräuning-Demian, M. Lestinsky, F. Herfurth, R. Maier, D. Prasuhn, R. Schuch, and M. Steck. SPARC collaboration: new strategy for storage ring physics at FAIR. *Hyperfine interactions*, 227(1-3):45 – 53, 2014.
- [84] N. A. Tahir, F. Burkart, A. Shutov, R. Schmidt, D. Wollmann, and A. R. Piriz. Simulations of beam-matter interaction experiments at the CERN HiRadMat facility and prospects of high-energy-density physics research. *Physical review / E*, 90(6):063112, 2014.
- [85] N. A. Tahir, V. Kim, B. Schlitt, W. Barth, L. Groening, I. Lomonosov, A. Piriz, T. Stöhlker, and H. Vormann. Three-dimensional thermal simulations of thin solid carbonfoils for charge stripping of high current uranium ion beams at a proposed new heavy-ion linac at GSI. *Physical review / Special topics / Accelerators and beams*, 17(4):041003, 2014.
- [86] S. Tashenov, D. Banaš, H. Beyer, C. Brandau, S. Fritzsche, A. Gumberidze, S. Hagmann, P.-M. Hillenbrand, H. Jörg, I. Kojouharov, C. Kozhuharov, M. Lestinsky, Y. Litvinov, A. Maiorova, H. Schaffner, V. Shabaev, U. Spillmann, T. Stöhlker, A. Surzhykov, and S. Trotsenko. Observation of Coherence in the Time-Reversed Relativistic Photoelectric Effect. *Physical review letters*, 113(11):113001, 2014.
- [87] D. Tiedemann, K. E. Stiebing, D. Winters, W. Quint, V. Varentsov, A. Warczak, A. Malarz, and T. Stöhlker. A pulsed supersonic gas jet target for precision spectroscopy at the HITRAP facility at GSI. *Nuclear instruments & methods in physics research / A*, 764:387 – 393, 2014.
- [88] C. L. Tracy, J. McLain Pray, M. Lang, D. Popov, C. Park, C. Trautmann, and R. C. Ewing. Defect accumulation in ThO_2 irradiated with swift heavy ions. *Nuclear instruments & methods in physics research / B*, 326:169 – 173, 2014.
- [89] X. L. Tu, Y. Sun, Y. H. Zhang, H. S. Xu, K. Kaneko, Y. A. Litvinov, and M. Wang. A survey of Coulomb displacement energies and questions on the anomalous behavior in the upper fp-shell. *Journal of physics / G*, 41(2):025104 –, 2014.
- [90] A. E. Velasco, C. Yang, Z. S. Siwy, M. E. Toimil Molaes, and P. Taborek. Flow and evaporation in single micrometer and nanometer scale pipes. *Applied physics letters*, 105(3):033101, 2014.
- [91] M. Vogel, H. Häffner, K. Hermanspahn, S. Stahl, J. Steinmann, and W. Quint. Resistive and sympathetic cooling of highly-charged-ion clouds in a Penning trap. *Physical review / A*, 90(4):043412, 2014.
- [92] F. Wagner, S. Bedacht, A. Ortner, M. Roth, A. Tauschwitz, B. Zielbauer, and V. Bagnoud. Pre-plasma formation in experiments using petawatt lasers. *Optics express*, 22(24):29505 –, 2014.
- [93] F. Wagner, C. P. João, J. Fils, T. Gottschall, J. Hein, J. Körner, J. Limpert, M. Roth, T. Stöhlker, and V. Bagnoud. Temporal contrast control at the PHELIX petawatt laser facility by means of tunable sub-picosecond optical parametric amplification. *Applied physics / B*, 116(2):429 – 435, 2014.
- [94] T. White, N. Hartley, B. Borm, B. Crowley, J. Harris, D. Hochhaus, T. Kaempfer, K. Li, P. Neumayer, L. Pattison, F. Pfeifer, S. Richardson, A. Robinson, I. Uschmann, and G. Gregori. Electron-Ion Equilibration in Ultrafast Heated Graphite. *Physical review letters*, 112(14):145005, 2014.
- [95] R. Zabels, I. Manika, K. Schwartz, J. Maniks, and R. Grants. MeV–GeV ion induced dislocation loops in LiF crystals. *Nuclear instruments & methods in physics research / B*, 326:318 – 321, 2014.
- [96] V. A. Zaytsev, A. V. Maiorova, V. M. Shabaev, A. V. Volotka, S. Tashenov, G. Plunien, and T. Stöhlker. Parity-nonconservation effect in the dielectronic recombination of polarized electrons with heavy He-like ions. *Physical review / A*, 89(3):032703, 2014.
- [97] W. Zhang, X. L. Tu, M. Wang, Y. H. Zhang, H. S. Xu, Y. Litvinov, K. Blaum, R. J. Chen, X. C. Chen, C. Y. Fu, Z. Ge, B. S. Gao, Z. G. Hu, W. J. Huang, S. Litvinov, D. W. Liu, X. W. Ma, R. S. Mao, B. Mei, P. Shuai, B. H. Sun, J. W. Xia, G. Q. Xiao, Y. M. Xing, X. Xu, T. Yamaguchi, X. L. Yan, J. C. Yang, Y. J. Yuan, Q. Zeng, X. Y. Zhang, H. W. Zhao, T. C. Zhao, and X. H. Zhou. Time-of-flight detectors with improved timing performance for isochronous mass measurements at the CSRe. *Nuclear instruments & methods in physics research / A*, 756:1 – 5, 2014.
- [98] W. Zhang, X. L. Tu, M. Wang, Y. H. Zhang, H. S. Xu, Y. Litvinov, K. Blaum, X. C. Chen, Z. G. Hu, W. J. Huang, X. W. Ma, R. S. Mao, B. Mei, P. Shuai, B. H. Sun, T. Yamaguchi, J. W. Xia, G. Q. Xiao, X. Xu, X. L. Yan, J. C. Yang, Y. J. Yuan, X. H. Zhou, H. W. Zhao, and T. C. Zhao. A timing detector with pulsed high-voltage power supply for mass measurements at CSRe. *Nuclear instruments & methods in physics research / A*, 755:38 – 43, 2014.
- [99] N. A. Zubova, Y. S. Kozhedub, V. M. Shabaev, I. I. Tupitsyn, A. V. Volotka, G. Plunien, C. Brandau, and T. Stöhlker. Relativistic calculations of the isotope shifts in highly charged Li-like ions. *Physical review / A*, 90(6):062512, 2014.