

Author Index

A

Aarholt, Thomas, 513–536
 Abolhassani, Sousan, 435–466
 Adamson, Ronald, 385–407
 Alat, Ece, 149–171
 Almer, Jonathan D., 67–91, 786–811
 Ambard, Antoine, 904–926
 Ammon, Katja, 435–466
 Andersson, Björn, 343–364
 Anghel, Clara, 343–364, 904–926
 Arimescu, Ioan, 385–407
 Armson, Samuel A. J., 564–587, 878–903
 Atkinson, Michael D., 233–261
 Augereau, Julien, 189–210
 Auguszt, György, 813–832

B

Bachhav, Mukesh, 669–695
 Badr, Nima N., 732–761
 Bajaj, Ram, 588–619
 Barberis, Pierre, 189–210, 643–668
 Baris, Adrienn, 435–466
 Bart, Gerhard, 435–466
 Barton, Fiona, 233–261
 Baxter, Felicity, 878–903
 Bertsch, Johannes, 435–466
 Binks, Paul, 537–563
 Bischoff, Jeremy, 189–210
 Borrel, Léo, 669–695
 Bourlier, Florent, 643–668
 Brachet, Jean-Christophe, 833–854
 Bradley, Luke, 93–122
 Brimbal, Daniel, 643–668

Buchanan, Karl, 189–210
 Buyers, Andrew, 762–785
 Byers, William A., 211–231

C

Cai, Zhonghou, 588–619
 Callow, Anne, 408–434
 Chaari, Nermine, 189–210, 643–668
 Charbaut, Stéphane, 697–731
 Choi, Byoung-Kwon, 172–188
 Chollet, Melanie, 435–466
 Cleary, William T., 467–491
 Cogez, Lucile, 365–384
 Cole-Baker, Aidan, 537–563, 878–903
 Coleman, Christopher E., 762–785
 Colldeweih, Aaron, 435–466
 Condó, Adriana, 786–811
 Couet, Adrien, 564–587, 669–695
 Crivello, Jean-Claude, 833–854
 Cui, Jun, 262–293

D

Daniel, Christopher S., 93–122
 Daub, Kevin, 855–877
 Daymond, Mark R., 294–318, 732–761, 904–926
 Delafoy, Christine, 189–210
 Desgranges, Clara, 833–854
 Desquines, Jean, 697–731
 Dever, Caitlin, 855–877
 Dolgov, Alexey B., 123–148
 Domizzi, Gladys, 786–811
 Donnelly, Stephen, 408–434
 Donnikov, Vladimir E., 123–148

Donoghue, Jack, 904–926
Dupuy, Laurent, 319–342

E

Elbakhshwan, Mohamed, 564–587
Ensor, Brendan, 588–619

F

Farkas, Róbert, 813–832
Fenwick, Mark, 537–563
Filatova, Nadezhda K., 123–148
Flores, Alejandra V., 786–811
Frankel, Philipp, 233–261, 564–587,
878–903, 904–926

G

Garner, Alistair, 878–903, 904–926
Gass, Mhairi, 513–536, 537–563
Gaumé, Marine, 319–342
Gee, Charles F., 365–384
Gémes, György, 813–832
Gillen, Conor, 904–926
Golovin, Anton V., 123–148
Grabherr, Robin, 435–466
Grosse, Mirco K., 621–642
Grovenor, Chris R. M., 408–434,
513–536
Gusev, Anatoly Yu., 123–148

H

Hanlon, Sean M., 762–785, 904–926
Haws, Jonathan, 435–466
He, Guanze, 408–434
He, Li, 564–587
Hermann, Armin, 435–466
He, Yalong, 564–587
Hinks, Jonathan, 408–434
Holecz, Péter, 813–832

Honniball, Peter D., 93–122, 365–384
Horváth, Márta, 813–832
Hózer, Zoltán, 813–832
Hu, Jing, 149–171, 408–434, 669–695
Hulme, Helen, 537–563

J

Jedrasiak, Patryk, 93–122
Jones, Christopher, 513–536
Joubert, Jean-Marc, 833–854
Jung, Yang-Il, 172–188

K

Kammenzind, Bruce F., 25–43
Kassem, Wassim, 319–342
Kim, Hyun-Gil, 172–188
Kim, Il-Hyun, 172–188
Kim, Taeho, 564–587
Király, Márton, 813–832
Kirk, Mark, 408–434
Kis, Zoltán, 813–832
Kobylyansky, Gennady, 385–407
Kuri, Goutam, 435–466

L

Lacroix, Evrard, 67–91
Lafaye, Paul, 833–854
Latynin, Vyacheslav I., 123–148
Ledergerber, Guido, 435–466
Lee, Young-Ho, 172–188
Legendre, Fabrice, 833–854
Leideborg, Michael, 343–364
Li, Kexue, 408–434, 513–536
Li, Meimei, 408–434
Limbäck, Magnus, 211–231, 343–364,
435–466
Liu, Junliang, 408–434, 513–536
Long, Fei, 732–761
Lozano-Perez, Sergio, 408–434

Lucadamo, Gene, 588–619
 Lunt, David, 233–261
 Lyons, John L., 211–231

M

Maier, Benjamin R., 211–231
 Malgin, Andrey G., 123–148
 Markelov, Vladimir A., 123–148
 Maróti, Boglárka, 813–832
 Martin, Matthias, 435–466
 Martinelli, Laure, 833–854
 McRae, Glenn A., 762–785
 Mir, Anamul H., 408–434
 Momprou, Frederic, 319–342
 Monceau, Daniel, 833–854
 Moody, Michael, 408–434
 Moorehead, Michael, 669–695
 Moore, Katie L., 513–536
 Motta, Arthur T., 67–91, 149–171, 588–619
 Mueller, Andrew J., 211–231

N

Nagy, Imre, 813–832
 Nimishakavi, Kiran, 189–210
 Nordin, Heidi M., 408–434, 492–512, 855–877
 Novikov, Vladimir V., 123–148
 Novotny, Tamás, 813–832

O

Obukhov, Alexander, 385–407
 O'Hanlon, James, 233–261
 Onimus, Fabien, 319–342

P

Panteli, Alexandra, 537–563
 Park, Dong-Jun, 172–188

Park, Jung-Hwan, 172–188
 Parsi, Arash, 211–231
 Partezana, Jonna M., 211–231, 408–434, 467–491
 Perez-Feró, Erzsébet, 813–832
 Persaud, Suraj, 732–761
 Peyton, Christian J., 93–122
 Philippe, Marc, 697–731
 Phillion, Andrew, 904–926
 Pickering, Felicity, 537–563
 Plowman, Adam, 904–926
 Portier, Stéphane, 435–466
 Preuss, Michael, 44–65, 233–261, 513–536, 564–587, 878–903
 Puls, Manfred, 697–731
 Pulvermacher, Samuel, 621–642

Q

Quinta da Fonseca, João, 93–122, 233–261

R

Race, Christopher P., 878–903, 904–926
 Restani, Renato, 435–466
 Riley, Christopher, 878–903
 Romero, Javier E., 211–231
 Rudling, Peter, 1–24

S

Saidi, Peyman, 732–761
 Santisteban, Javier R., 786–811
 Schillinger, Burkhard, 621–642
 Schweikert, Herbert, 435–466
 Seidensticker, John R., 588–619
 Seryodkin, Sergey, 385–407
 Shek, Gordon K., 262–293
 Shelepov, Ivan A., 123–148
 Shercliff, Hugh R., 93–122
 Shevyakov, Alexandr Yu., 123–148

Simon, Pierre-Clément A., 67–91
 Smith, James, 537–563
 Steinbrück, Martin, 621–642
 Stiteler, Richard S., 211–231
 Szentmiklósi, László, 813–832
 Szőke, Réka, 492–512

T

Terrani, Kurt, 564–587
 Thomas, Rhys, 233–261
 Toffolon-Masclet, Caroline, 833–854
 Tolley, Alfredo, 786–811
 Topping, Matthew, 732–761
 Tverberg, Terje, 343–364

U

Ugryumov, Alexander V., 123–148

V

Vanta, Radovan, 435–466
 Vér, Nóra, 813–832
 Vicente Alvarez, Miguel A., 786–811
 Vizcaino, Pablo, 786–811

W

Walters, Jorie L., 211–231
 Wang, Guoqiang, 211–231
 Wang, Qiang, 294–318
 Waters, Michael, 537–563
 Westin, Gunnar, 343–364
 Wiese, Holger, 435–466
 Wilkinson, Angus J., 408–434
 Wolfe, Douglas E., 149–171
 Wright, Jonathan, 343–364

X

Xu, Peng, 467–491

Y

Yagnik, Suresh, 385–407
 Yankova, Maria S., 878–903
 Yao, Zhongwen, 732–761
 Yu, Zefeng, 669–695

Z

Ziganshin, Alexander G., 123–148

Subject Index

A

Ab initio calculations, 833–854
 Accident tolerant fuel, 149–171,
 172–188, 189–210, 211–231
 cladding, 855–877
 Additive manufacturing, 467–491
 Alpha beta processing, 93–122
 Atom probe tomography, 408–434

B

Boiling, 537–563
 Breakaway oxidation, 123–148
 Burst, 813–832
 test, 262–293

C

Chromium, 211–231
 Cladding, 149–171
 Cluster dynamics, 643–668
 Coatings, 149–171, 172–188, 211–231,
 343–364
 Cold spray, 211–231
 Compression testing, 93–122
 Corrosion, 25–43, 44–65, 149–171,
 172–188, 408–434, 467–491, 513–536,
 564–587, 588–619, 669–695, 833–854,
 855–877
 Creep behavior, 385–407
 Cr coating, 189–210
 Cycling, 697–731

D

Deformation, 319–342
 Delayed hydride cracking, 762–785
 Deuterium, 513–536
 ingress, 492–512

DFT, 904–926
 Dislocation, 319–342, 786–811
 channeling, 233–261
 loop, 643–668
 Dissolution, 67–91

E

E110 alloy, 123–148
 E110 cladding, 813–832
 EBSD, 233–261
 Electrolytic zirconium, 123–148
 Electron beam melting, 123–148
 Electron energy loss spectroscopy,
 732–761
 Enhanced spacer shadow corrosion
 (ESSC), 343–364

F

Fatigue, 365–384
 Finite element modeling, 294–318
 Four-point bend technique, 385–407
 Fracture toughness, 262–293

G

Gamma hydride, 762–785

H

High burnup, 435–466
 High-spatial-resolution EBSD,
 878–903
 High-temperature oxidation,
 189–210, 813–832
 HRDIC, 233–261
 Hydride, 262–293, 365–384, 697–731
 growth, 67–91
 characterization, 786–811

nucleation, 67–91
 reorientation under stress, 786–811
 texture, 786–811
 Hydrogen, 365–384, 467–491,
 513–536, 643–668
 migration, 25–43
 pickup, 25–43
 solubility under stress, 786–811
 uptake rate, 435–466

I

Inconel X-750, 343–364
 Ingot, 123–148
 In-reactor corrosion testing, 492–512
 In situ irradiation, 408–434
 Irradiated, 365–384
 Irradiation, 149–171, 319–342,
 467–491, 513–536, 643–668
 damage, 294–318, 408–434
 effect, 669–695
 test, 172–188
 I-SCC, 904–926

K

Kinetic, 833–854
 Kroll paper, 1–24, 25–43, 45–65

L

Laser powder bed fusion, 467–491
 Lattice matching, 878–903
 LiOH, 537–563
 Lithium, 537–563
 LK3, 343–364
 Loop, 319–342
 Loss-of-coolant accidents, 813–832

M

Mechanistic understanding, 44–65
 Micromechanical properties, 435–466

Micropores, 435–466
 Microscale mechanical testing,
 294–318
 Microtexture analysis, 878–903
 MIT-R, 467–491
 Modeling, 67–91
 MUZIC, 44–65

N

NanoSIMS, 513–536
 Neutron flux, 588–619
 Neutron imaging, 621–642
 Nitriding, 621–642
 Nuclear, 67–91

O

Oxidation, 435–466
 kinetics, 621–642
 Oxide microtexture regions, 878–903
 Oxygen, 513–536

P

Pellet cladding interaction, 904–926
 Photon irradiation, 564–587
 Placticity, 233–261
 Post-irradiation examination (PIE),
 467–491
 Precipitation, 67–91
 Processing maps, 93–122
 Proton irradiation, 233–261

Q

Quenching, 762–785

R

Radial, 697–731
 Remedies, 343–364
 Residual fluorine impurity, 123–148

S

SEM, 669–695
 Semiconducting properties, 435–466
 Shadow corrosion, 343–364
 Simulation, 319–342
 Slip system, 233–261
 Spent fuel, 697–731
 Stress relaxation, 385–407
 Stress-strain response, 294–318
 Synchrotron radiation, 588–619
 Synchrotron X-ray, 44–65
 diffraction, 732–761
 diffraction experiments, 786–811

T

3D EBSD, 904–926
 3D-FIB, 435–466
 Tensile, 467–491
 TEM, 435–466, 669–695
 TEM characterization, 564–587
 Thermal
 gradient, 537–563
 history, 762–785
 Thermodynamic, 833–854
 TiAlN, 149–171
 TiN, 149–171
 Transmission electron microscopy,
 408–434, 732–761

Transmission Kikuchi diffraction,
 408–434
 Two-phase flow, 537–563

V

Vacuum arc melting, 123–148

Z

ZIRAT, 1–24
 Zircaloy, 365–384, 697–731,
 855–877
 Zircaloy-2, 343–364, 467–491
 Zircaloy-4, 25–43, 233–261, 537–563,
 588–619, 621–642, 786–811, 904–926
 Zirconia, 343–364
 Zirconium, 67–91, 93–122, 233–261,
 513–536, 643–668
 alloys, 1–24, 385–407, 408–434,
 588–619
 cladding, 172–188, 189–210
 corrosion, 878–903
 hydride, 67–91, 732–761
 Zr-base alloys, 833–854
 Zr-based claddings, 435–466
 Zr-Cr eutectic, 189–210
 Zr-Nb alloys, 669–695
 Zr-2.5Nb, 262–293, 492–512,
 786–811

