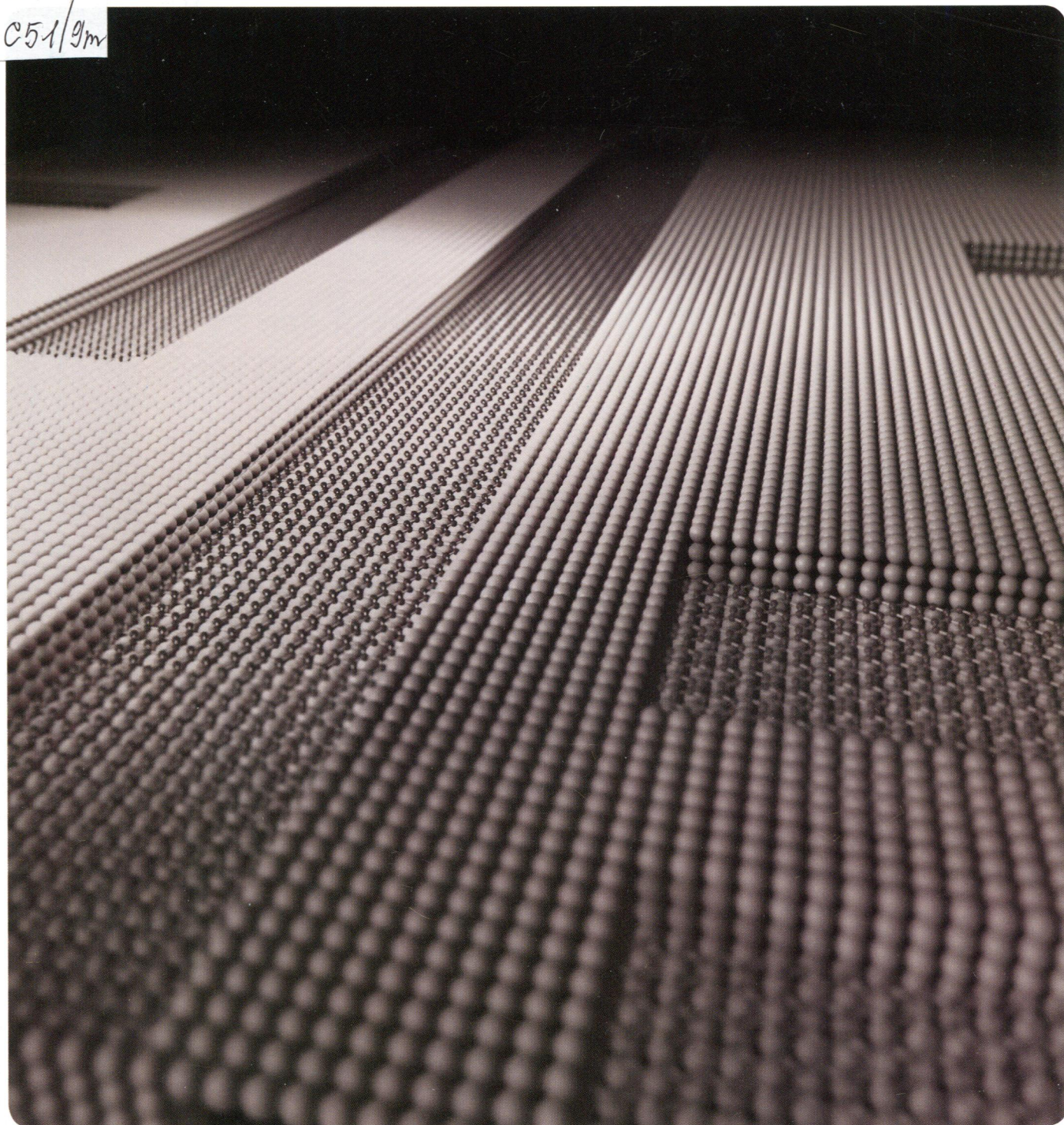


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ON THE COVER: A new bottom-up approach to synthesize oriented graphene nanoribbons (GNRs) on an epitaxial Cu(100) film by chemical vapor deposition is presented. The artwork shows the GNRs selectively grown inside one-dimensional narrow trenches which are formed on the Cu(100) surface. For more information, see “Formation of Oriented Graphene Nanoribbons over Heteroepitaxial Cu Surfaces by Chemical Vapor Deposition” by Rozan Mohamad Yunus, Masahiro Miyashita, Masaharu Tsuji, Hiroki Hibino, and Hiroki Ago* (*Chem. Mater.* **2014**, *26*, 5215–5222).

Editorial

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Organic Photovoltaics: An Early Innovator

Carlos Toro and Jillian M. Buriak*

[dx.doi.org/10.1021/cm503182r](https://doi.org/10.1021/cm503182r)

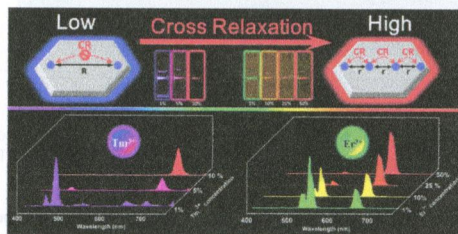
Communications

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Cross Relaxation Induced Pure Red Upconversion in Activator- and Sensitizer-Rich Lanthanide Nanoparticles

Wei Wei, Yan Zhang, Rui Chen, Julian Goggi, Na Ren, Ling Huang, Kishore K. Bhakoo, Handong Sun, and Timothy Thatt Yang Tan*

[dx.doi.org/10.1021/cm5022382](https://doi.org/10.1021/cm5022382)

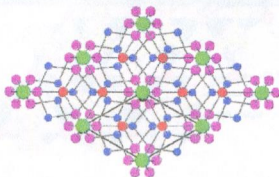


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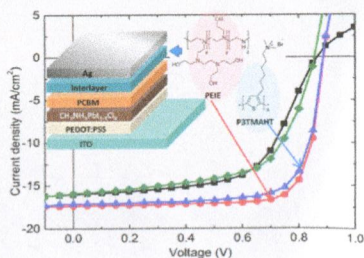
On Sr_{1-x}Na_xSiO_{3-0.5x} New Superior Fast Ion Conductors

Ivana Radosavljevic Evans,* John S. O. Evans, Heather G. Davies, Abby R. Haworth, and Matthew L. Tate

[dx.doi.org/10.1021/cm502850m](https://doi.org/10.1021/cm502850m)

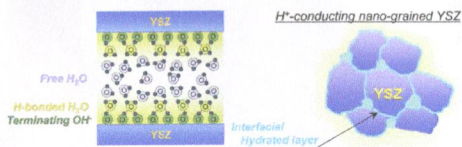


Improved High-Efficiency Perovskite Planar Heterojunction Solar Cells via Incorporation of a Polyelectrolyte Interlayer
 Hong Zhang,* Hamed Azimi, Yi Hou, Tayebah Ameri, Thomas Przybilla, Erdmann Spiecker, Mario Kraft, Ullrich Scherf, and Christoph J. Brabec

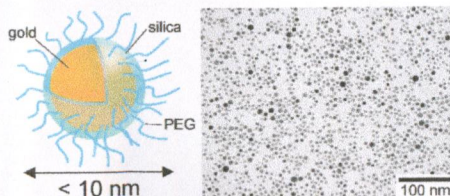


Articles

Low-Temperature Protonic Conduction Based on Surface Protonics: An Example of Nanostructured Yttria-Doped Zirconia
 Shogo Miyoshi,* Yasuaki Akao, Naoaki Kuwata, Junichi Kawamura, Yukiko Oyama, Takehiko Yagi, and Shu Yamaguchi

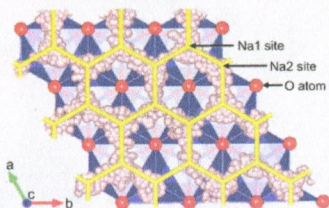


Water-Based Synthesis of Ultrasmall PEGylated Gold–Silica Core–Shell Nanoparticles with Long-Term Stability
 Yao Sun, Hiroaki Sai, Frederick von Stein, Mark Riccio, and Ulrich Wiesner*



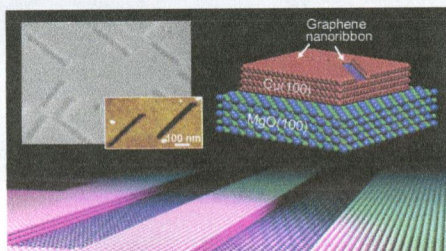
Insights into Diffusion Mechanisms in P2 Layered Oxide Materials by First-Principles Calculations

Yifei Mo,* Shyue Ping Ong, and Gerbrand Ceder



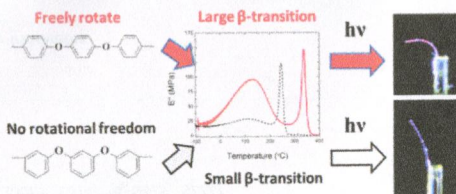
Formation of Oriented Graphene Nanoribbons over Heteroepitaxial Cu Surfaces by Chemical Vapor Deposition

Rozan Mohamad Yunus, Masahiro Miyashita, Masaharu Tsuji, Hiroki Hibino, and Hiroki Ago*



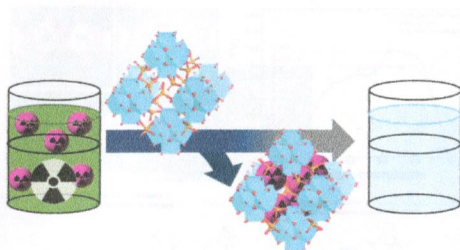
Molecular Engineering of Azobenzene-Functionalized Polyimides To Enhance Both Photomechanical Work and Motion

Jeong Jae Wie, David H. Wang, Kyung Min Lee, Loon-Seng Tan,* and Timothy J. White*

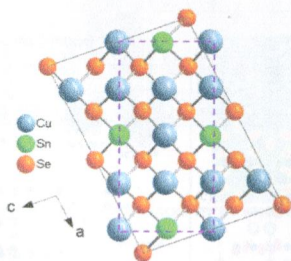


Topotactic Transformations of Metal–Organic Frameworks to Highly Porous and Stable Inorganic Sorbents for Efficient Radionuclide Sequestration

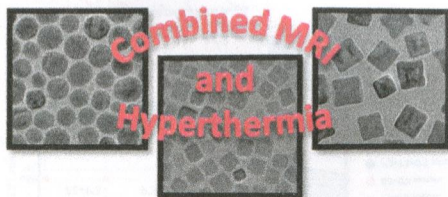
Carter W. Abney, Kathryn M. L. Taylor-Pashow,* Shane R. Russell, Yuan Chen, Raghavendra Samantaray, Jenny V. Lockard, and Wenbin Lin*

**Crystal Structure and Physical Properties of Ternary Phases around the Composition $\text{Cu}_3\text{Sn}_2\text{Se}$, with Tetrahedral Coordination of Atoms**

Jing Fan, Wilder Carrillo-Cabrera, Iryna Antonyshyn, Yurii Prots, Igor Veremchuk, Walter Schnelle, Christina Drathen, Lidong Chen, and Yuri Grin*

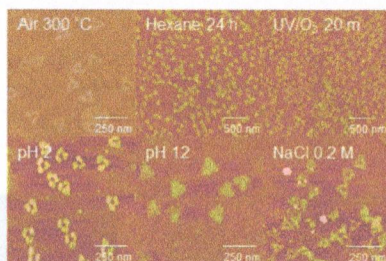
**Mastering the Shape and Composition of Dendronized Iron Oxide Nanoparticles To Tailor Magnetic Resonance Imaging and Hyperthermia**

Aurélien Walter, Claire Billotey,* Antonio Garofalo, Corinne Ulhaq-Bouillet, Christophe Lefèvre, Jacqueline Taleb, Sophie Laurent, Luce Vander Elst, Robert N. Muller, Lénaïc Lartigue, Florence Gazeau, Delphine Felder-Flesch,* and Sylvie Begin-Colin*

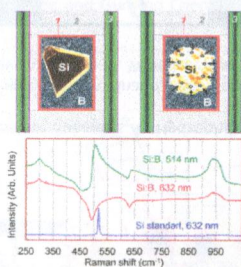


Stability of DNA Origami Nanostructure under Diverse Chemical Environments

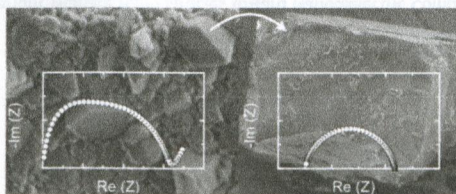
Hyojeong Kim, Sumedh P. Surwade, Anna Powell, Christina O'Donnell, and Haitao Liu*

**Bulk Silicon Crystals with the High Boron Content, Si_{1-x}B_x: Two Semiconductors Form an Unusual Metal**

Sergey V. Ovsyannikov,* Huiyang Gou,* Alexander E. Karkin, Vladimir V. Shchennikov, Richard Wirth, Vladimir Dmitriev, Yoichi Nakajima, Natalia Dubrovinskaia, and Leonid S. Dubrovinsky

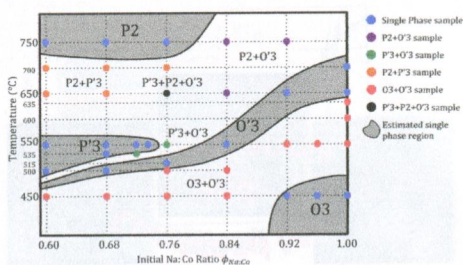
**Proton Conduction in a Nonporous One Dimensional Coordination Polymer**

Jolanta Stankiewicz,* Milagros Tomás,* Isabel T. Dobrinovitch, Elena Forcén-Vázquez, and Larry R. Falvello



Synthesis and Stoichiometry of Different Layered Sodium Cobalt Oxides

Yuechuan Lei, Xin Li, Lei Liu, and Gerbrand Ceder*



Exploring Hardness and the Distorted sp^2 Hybridization of B–B Bonds in WB_3

Qiang Tao, Dafang Zheng, Xueping Zhao, Yanli Chen, Quan Li, Qian Li, Changchun Wang, Tian Cui, Yanming Ma, Xin Wang,* and Pinwen Zhu*

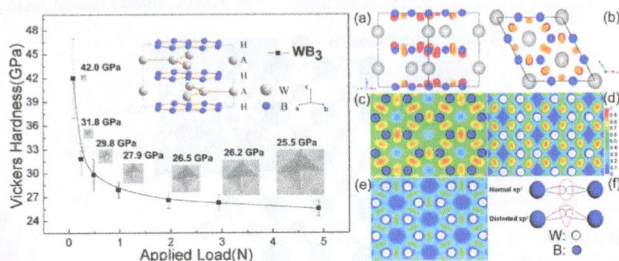
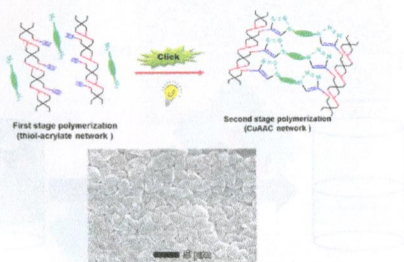


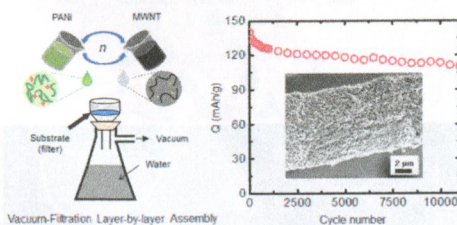
Photo-CuAAC Induced Wrinkle Formation in a Thiol–Acrylate Elastomer via Sequential Click Reactions

Abeer A. Alzahrani, Devatha P. Nair, David J. Smits, Mohand Saed, Christopher M. Yakacki, and Christopher N. Bowman*

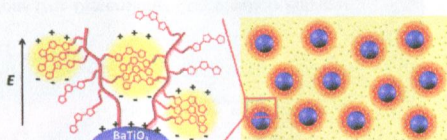


Vacuum-Assisted Layer-by-Layer Nanocomposites for Self-Standing 3D Mesoporous Electrodes

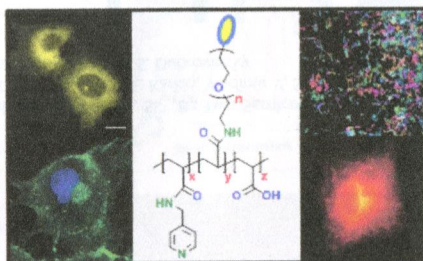
Md Nasim Hyder, Reza Kavian, Zakia Sultana, Kittipong Saetia, Po-Yen Chen, Seung Woo Lee, Yang Shao-Horn,* and Paula T. Hammond*

**Thiophene Polymer-Grafted Barium Titanate Nanoparticles toward Nanodielectric Composites**

Yali Qiao, Md. Sayful Islam, Lei Wang, Yi Yan, Jiuyang Zhang, Brian C. Benicewicz, Harry J. Ploehn, and Chuanbing Tang*

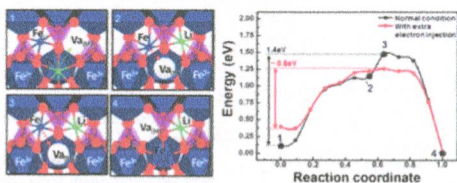
**A New Family of Pyridine-Appended Multidentate Polymers As Hydrophilic Surface Ligands for Preparing Stable Biocompatible Quantum Dots**

Kimihiro Susumu,* Eunkeu Oh, James B. Delehanty, Fabien Pinaud, Kelly Boeneman Gemmill, Scott Walper, Joyce Breger, Maria J. Schroeder, Michael H. Stewart, Vaibhav Jain, Craig M. Whitaker, Alan L. Huston, and Igor L. Medintz*



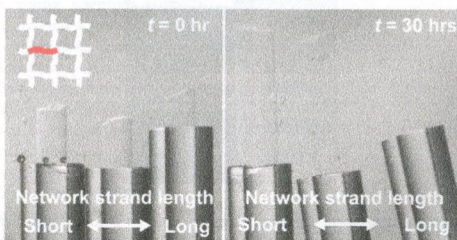
Anti-Site Reordering in LiFePO_4 : Defect Annihilation on Charge Carrier Injection

Kyu-Young Park, Inchul Park, Hyungsub Kim, Hee-dae Lim, Jihyun Hong, Jongsoo Kim, and Kisuk Kang*



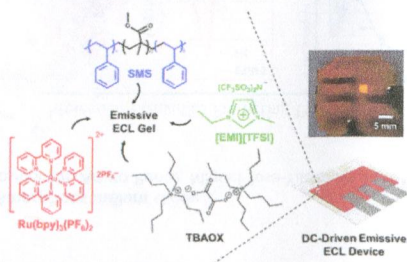
Degradation Behavior of Polymer Gels Caused by Nonspecific Cleavages of Network Strands

Xiang Li, Shinji Kondo, Ung-il Chung, and Takamasa Sakai*



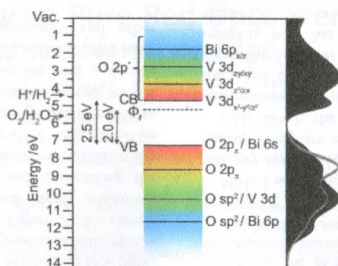
DC-Driven, Sub-2 V Solid-State Electrochemiluminescent Devices by Incorporating Redox Coreactants into Emissive Ion Gels

Hong Chul Moon, Timothy P. Lodge,* and C. Daniel Frisbie*

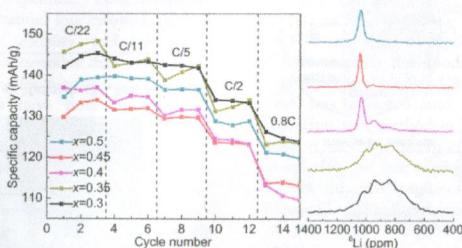


Electronic Structure of Monoclinic BiVO_4

Jason K. Cooper, Sheraz Gul, Francesca M. Toma, Le Chen, Per-Anders Glans, Jinghua Guo, Joel W. Ager, Junko Yano, and Ian D. Sharp*

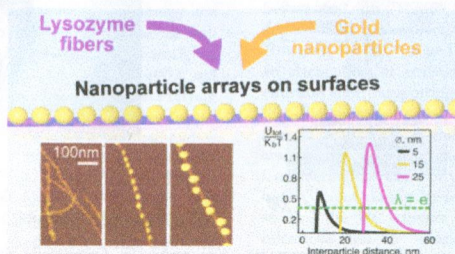
Relationships between Mn^{3+} Content, Structural Ordering, Phase Transformation, and Kinetic Properties in $\text{LiNi}_x\text{Mn}_{2-x}\text{O}_4$ Cathode Materials

Hugues Duncan, Bin Hai, Michal Leskes, Clare P. Grey, and Guoying Chen*



Synthesis and Properties of Gold Nanoparticle Arrays Self-Organized on Surface-Deposited Lysozyme Amyloid Scaffolds

Olivier Deschaume, Bert De Roo, Margriet J. Van Bael, Jean-Pierre Locquet, Chris Van Haesendonck, and Carmen Bartic*



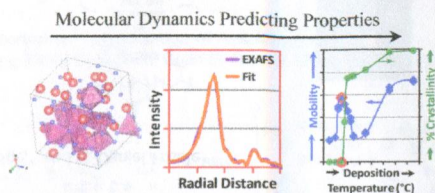
Perovskites for Solar Thermoelectric Applications: A First Principle Study of $\text{CH}_3\text{NH}_3\text{Al}_3$ (A = Pb and Sn)

Yuping He and Giulia Galli*



The Structure and Properties of Amorphous Indium Oxide

D. Bruce Buchholz, Qing Ma, Diego Alducin, Arturo Ponce, Miguel Jose-Yacamán, Rabi Khanal, Julia E. Medvedeva, and Robert P. H. Chang*



Ordered Heterostructures of Two Strictly Alternating Types of Nanoreactors

Matthias Stöter, Bernhard Biersack, Nele Reimer, Markus Herling, Norbert Stock, Rainer Schober, and Josef Breu*

