

List of Publications

Journals:

A. Al-Zubi, G. Bihlmayer and S. Blugel, **Crystals** **9** (11), 580 (2019)

Electronic Structure of Oxygen-Deficient SrTiO₃ and Sr₂TiO₄

(DOI: <https://doi.org/10.3390/cryst9110580>)

B. Dutta, A. Cakr, C. Giacobbe, **A. Al-Zubi**, T. Hickel, M. Acet, J. Neugebauer.

Physical Review Letters **116**, 025503 (2016)

Ab initio Prediction of Martensitic and Intermartensitic Phase Boundaries in Ni-Mn-Ga

(DOI: <https://doi.org/10.1103/PhysRevLett.116.025503>)

T. Ifflander, S. Rolf-Pissarczyk, L. Winking, R. G. Ulbrich, **A. Al-Zubi**, S. Blugel, and M. Wenderoth, **Physical Review Letters** **114**, 146804 (2015)

Local Density of States at Metal-Semiconductor Interfaces: An Atomic Scale Study

(DOI: <https://doi.org/10.1103/PhysRevLett.114.146804>)

J. Brede, N. Atodiresci, V. Caciuc, M. Bazarnik, **A. Al-Zubi**, S. Blugel, R. Wiesendanger.

Nature Nanotechnology **9**, 1018 (2014)

Long-range magnetic coupling between nanoscale organic-metal hybrids mediated by a

nanoskyrmion lattice (DOI: <https://doi.org/10.1038/nnano.2014.235>)

J. Millan, S. Sandlöbes, A. Al-Zubi, T. Hickel, P.-P. Choi, J. Neugebauer, D. Ponge, D. Raabe.
Acta Materialia **76**, 94 (2014)

Designing Heusler nanoprecipitates by elastic misfit stabilization in Fe-Mn maraging steels

(DOI: <https://doi.org/10.1016/j.actamat.2014.05.016>)

T. Hickel, M. Uijtewaal, **A. Al-Zubi**, B. Dutta, B. Grabowski, and J. Neugebauer.

Advanced Engineering Materials **14**, 547 (2012)

Ab Initio-Based Prediction of Phase Diagrams: Application to Magnetic Shape Memory Alloys

(DOI: <https://doi.org/10.1002/adem.201200092>)

M. Siewert, M. E. Gruner, A. Dannenberg, A. Chakrabarti, H. C. Herper, M. Wuttig, S. R. Barman,
S. Singh, **A. Al-Zubi**, T. Hickel, J. Neugebauer, M. Gillessen, R. Dronskowski, and P. Entel.

Applied Physics Letters **99**, 191904 (2011)

Designing shape-memory Heusler alloys from first-principles

(DOI: <https://doi.org/10.1063/1.3655905>)

A. Al-Zubi, G. Bihlmayer and S. Blugel.

Physica Status Solidi (b) **248**, 2242 (2011)

Modeling magnetism of hexagonal Fe monolayers on 4d substrates

(DOI: <https://doi.org/10.1002/pssb.201147090>)

A. Al-Zubi, G. Bihlmayer and S. Blugel.
Phys. Rev. B **83**, 024407 (2011)
Magnetism of 3d transition-metal monolayers on Rh(100)
(DOI: <https://doi.org/10.1103/PhysRevB.83.024407>)

B. Hardrat, **A. Al-Zubi**, P. Ferriani, S. Blugel, G. Bihlmayer and S. Heinze.
Phys. Rev. B **79**, 094411 (2009)
Complex magnetism of iron monolayers on hexagonal transition metal surfaces from first principles (DOI: <https://doi.org/10.1103/PhysRevB.79.094411>)

Conferences:

- **Mar. 2014: Annual spring meeting of German Physics Society (DPG),**
Dresden/Germany (**Talk:** Vacancy-vacancy interaction in SrTiO₃ bulk and surfaces)
- **Oct. 2013: Functional oxides for emerging technologies workshop,**
Bremen/Germany (**Poster:** Ab initio study of defects in SrTiO₃ bulk and (100) surfaces)
- **Mar. 2013: Annual spring conference of German Physics Society (DPG),**
Regensburg/Germany (**Talk:** Ab initio study of defects in SrTiO₃ surfaces)
- **Mar. 2011: Annual spring conference of German Physics Society (DPG),**
Dresden/Germany (**Talk:** Chemical trends of Ni₂MnGa-based shape memory alloys)
- **Sep. 2010: SPP 1239 Convention, Tutzing/Germany**
(**Talk:** Temperature dependent effects in magnetic shape memory Heusler alloys)
- **Jul. 2009: 20th International Colloquium on Magnetic Films and Surfaces,**
Berlin/Germany (**Poster:** Unique playground for non-collinear magnetism)
- **Apr. 2009: Magnetism in complex systems workshop, Vienna/Austria**
(Poster: Complex magnetism of Fe monolayers on hexagonal substrates)
- **Mar. 2009: Annual spring conference of German Physics Society (DPG),**
Dresden/Germany (**Talk:** Prediction of a novel magnetic phase of Fe on Rh(111))
- **Sep. 2008: Nanomagnetism and Spintronics, Prague/Czech Republic**
(Poster: Magnetic order and anisotropy of 3d monolayers on Rh(001))
- **Mar. 2008: Annual spring conference of German Physics Society (DPG),**
Berlin/Germany (**Talk:** Ultrathin magnetic films on Rh(001) substrate)
- **Mar. 2007: Annual spring conference of German Physics Society (DPG),**
Regensburg/Germany (**Poster:** Ultrathin magnetic films on Rhodium substrates)

Books:

“Ab Initio Investigations of Magnetic Properties of Ultrathin Transition Metal Films on 4d Substrates” (2010) Author: Ali Al-Zubi (ISBN 978-3-89336-641-5)