YIERPAN AIERKEN

PERSONAL INFORMATION

ORCID

Date of birth: June 9th 1986
Place of birth: Xinjiang, China
Gender: Male
Nationality: Chinese
Ethnic group: Uighur

Phone: +32-0485324566 (Cell)
E-mail: erpan14ar@gmail.com
Address: Condensed Matter Theory
Groenenborgerlaan 171
2020 Antwerp, Belgium

EDUCATION BACKGROUND

BS **University of Science and Technology Beijing, P. R. China** **Sept. 2006 - July 2010**
School of Materials Science and Engineering. Bachelor Degree in Materials Physics.

MS **University of Camerino, Italy** **Oct. 2010 - April 2013**
Department of Physics. Master Degree in Physics.

PhD **University of Antwerp, Belgium** **Dec. 2013 - Until now**
Condensed matter theory group, Department of Physics. PhD in Physics (Expected Dec. 2017).

THESES

Bachelor thesis

Title: A study on the anisotropies of Cobalt-based Thin Films in high performance magnetic sensor.
Supervisor: Professor HaiCheng Wang

Master thesis

Title: Effect of temperature on correlation in strong correlated two-dimensional quantum electron liquid.
Supervisor: Professor David Neilson

PhD thesis

Title: First-principles study of novel two-dimensional crystals and their properties.
Supervisor: Professor Francois Peeters

PUBLICATIONS

1. A. Yimamu, S. Beysen, D. Peng, and **Y. Aierken**: " Mixed-solvent thermal synthesis and magnetic properties of flower-like microstructured nickel ", Particuology 10, 392–396 (2012).
2. **Y. Aierken**, H. Sahin, F. Iyikanat, S. Horzum, A. Suslu, B. Chen, R. T. Senger, S. Tongay, and F. M. Peeters: " Portlandite crystal: Bulk, bilayer, and monolayer structures ", Phys. Rev. B 91, 245413 (2015).
3. **Y. Aierken**, D. Çakır, C. Sevik, and F. M. Peeters: "Thermal properties of black and blue phosphorenes from a first-principles quasiharmonic approach", Phys. Rev. B 92, 081408(R) (2015).
4. **Y. Aierken**, O. Leenaerts, and F. M. Peeters: "Defect-induced faceted blue phosphorene nanotubes", Phys. Rev. B 92, 104104 (2015).
5. M. M. Alyörük, **Y. Aierken**, D. Çakır, F. M. Peeters, and C. Sevik: "Promising Piezoelectric Performance of Single Layer Transition-Metal Dichalcogenides and Dioxides", J. Phys. Chem. C 119, 23231-23237 (2015).
6. **Y. Aierken**, D. Çakır, and F. M. Peeters: "Strain enhancement of acoustic phonon limited mobility in monolayer TiS3", Phys. Chem. Chem. Phys. 18, 14434-14441 (2016).
7. **Y. Aierken**, O. Leenaerts, and F. M. Peeters: "A first-principles study of stable few-layer penta-silicene", Phys. Chem. Chem. Phys. 18, 18486-18492 (2016).

8. **Y. Aierken**, O. Leenaerts, and F. M. Peeters: “Intrinsic magnetism in penta-hexa-graphene: A first-principles study”, Phys. Rev. B 94, 155410 (2016).

UNDER REVIEW

9. **Y. Aierken**, D. Çakır, and F. M. Peeters: "Impact of doping on the electrical transport properties of transition metal dichalcogenides lateral heterojunctions” (submitted to nanoscale) (2017)
10. **Y. Aierken**, O. Leenaerts, and F. M. Peeters: “Edge-decoration of graphene nanoribbon with Nitrogens – A first principles study” (finalizing) (2017)
11. **Y. Aierken**, D. Çakır, and F. M. Peeters: "First principles study of Lithium atom intercalation in MXenes/graphene heterostructures” (finalizing) (2017)

CONFERENCE AND SCHOOLS

- 45th IFF Spring School: Computing Solids: “ Models, *ab initio* methods and supercomputing ”, Jülich, Germany, March 2014.
- **Y. Aierken**, O. Leenaerts, and F. M. Peeters: "Defect-induced faceted blue phosphorene nanotubes" poster presentations on:
  - Hands-on workshop density-functional theory and beyond: “ First-principles simulations of molecules and materials ”, Berlin, Germany, July 2015.
  - Psi-k 2015 Conference: “ *ab initio* (from the electronic structure) calculations processes in materials ”, San Sebastian, Spain, September 2015.

LANGUAGES

English (good), Mandarin (native), Uighur (mother tongue)

COMPUTER SKILLS

Fortran, Python, Mathematica, GitHub, Latex, Linux, OS X, Windows
Simulation packages: VASP, Quantum espresso, Siesta (Transiesta), Phonopy, Lammps, Atomic Simulation Environment, QuantumWise, Material studio. AiiDA high throughput computations

HONORS AND AWARDS

- Academic Progress Award 2005
- Outstanding Self-financed Students Award from Xinjiang Province, China 2012, 2014-2015
- Master Students Scholarship (borsa di studio) 2010-2013
- FWO Grant for participation in an international workshop or course 2015
- FWO Grant for participation in an international conference 2015

OTHER ACTIVATES AND INTERESTS

- The Champion band of the Outstanding Star Music Competition on campus. 2006
- Outstanding Performance Prize in YAMAHA Asian Beat Music competition. 2008
- The Champion team of the College Basketball Tournament. 2008