

## List of Publications

### 13. Effect of alkanethiol chain length on the oxidation resistance of self-assembled monolayer passivated Ge(100) surfaces

Shane Garvey, Maria Barbara Maccioni, Andrew C. Serino, Justin D. Holmes, Michael Nolan, Nerissa Draeger, Brenda Long. *Thin Solid Films*, 139875, (2023) doi: [10.1016/j.tsf.2023.139875](https://doi.org/10.1016/j.tsf.2023.139875)

### 12. Towards Ge-based Electronic Devices: Increased Longevity of Alkanethiol-Passivated Ge(100) in Low Humidity Environments

Shane Garvey, Andrew Serino, Maria Barbara Maccioni, Justin D. Holmes, Michael Nolan, Nerissa Draeger, Emir Gurer, Brenda Long. *Thin Solid Films*, 139466, (2022) doi: [10.1016/j.tsf.2022.139466](https://doi.org/10.1016/j.tsf.2022.139466)

### 11. Unravelling the impact of Ta doping on the electronic and structural properties of titania: A combined theoretical and experimental approach

Vignesh Kumaravel, Maria Barbara Maccioni, Snehamol Mathew, Steven J. Hinder, John Bartlett, Michael Nolan, Suresh C. Pillai. *Journal of Physical Chemistry C* 126, 2285–2297 (2022) doi: [10.1021/acs.jpcc.1c10805](https://doi.org/10.1021/acs.jpcc.1c10805)

### 10. Monolayer doping of germanium with arsenic: a new chemical route to achieve optimal dopant activation

Noel Kennedy, Shane Garvey, Maria Barbara Maccioni, Luke Eaton, Michael Nolan, Ray Duffy, Fintan Meaney, Mary Kennedy, Justin D. Holmes, and Brenda Long, *Langmuir*, 36, 9993–10002 (2020) doi: [10.1021/acs.langmuir.0c00408](https://doi.org/10.1021/acs.langmuir.0c00408)

### 9. Influence of thermal conductivity and of non-constant relaxation time on thermoelectricity in Mg<sub>3</sub>Sb<sub>2</sub>

Roberta Farris, Maria Barbara Maccioni, Alessio Filippetti, Vincenzo Fiorentini, *Journal of Physics: Conference Series* 1226, 012010 (2019) doi: [10.1088/1742-6596/1226/1/012010](https://doi.org/10.1088/1742-6596/1226/1/012010)

### 8. High thermoelectric figure of merit and thermopower in layered perovskite oxides

Vincenzo Fiorentini, Roberta Farris, Edoardo Argiolas, Maria Barbara Maccioni, *Physical Review Materials* 3, 022401(R) (2019) [doi: 10.1103/PhysRevMaterials.3.022401](https://doi.org/10.1103/PhysRevMaterials.3.022401)

**7. Theory of thermoelectricity in  $\text{Mg}_3\text{Sb}_2$  with an energy- and temperature dependent relaxation time**

Roberta Farris, Maria Barbara Maccioni, Alessio Filippetti, Vincenzo Fiorentini, *Journal of Physics: Condensed Matter* 31 (6), 065702 (2019) [doi: 10.1088/1361-648X/aaf364](https://doi.org/10.1088/1361-648X/aaf364)

**6. *Ab initio* thermal conductivity of thermoelectric  $\text{Mg}_3\text{Sb}_2$ : Evidence for dominant extrinsic effects**

Maria Barbara Maccioni, Roberta Farris, Vincenzo Fiorentini, *Physical Review B*, 98, 22 (2018) [doi: 10.1103/PhysRevB.98.220301](https://doi.org/10.1103/PhysRevB.98.220301)

**5. Phase diagram and polarization of stable phases of  $(\text{Ga}_{1-x}\text{In}_x)_2\text{O}_3$**

Maria Barbara Maccioni, Vincenzo Fiorentini, *Applied Physics Express* 9, 041102 (2016) [doi:10.7567/APEX.9.041102](https://doi.org/10.7567/APEX.9.041102)

**4. Properties of  $(\text{Ga}_{1-x}\text{In}_x)_2\text{O}_3$  over the whole x range**

Maria Barbara Maccioni, Francesco Ricci, Vincenzo Fiorentini, *Journal of Physics: Condensed Matter* 28, 224001 (2016) [doi:10.1088/0953-8984/28/22/224001](https://doi.org/10.1088/0953-8984/28/22/224001)

**3. Low In solubility and band offsets in the small-x  $\beta\text{-Ga}_2\text{O}_3/(\text{Ga}_{1-x}\text{In}_x)_2\text{O}_3$  system**

Maria Barbara Maccioni, Francesco Ricci, Vincenzo Fiorentini, *Applied Physics Express*, 8, 021102 (2015) [doi:10.7567/APEX.8.021102](https://doi.org/10.7567/APEX.8.021102)

**2. Topological multiferroics**

Marco Scarrozza, Maria Barbara Maccioni, Giorgia M. Lopez, Alessio Filippetti, Vincenzo Fiorentini, *Phase Transitions*, 88, 10 (2015) [doi: 10.1080/01411594.2014.986731](https://doi.org/10.1080/01411594.2014.986731)

**1. Structure and gap of low-x  $(\text{Ga}_{1-x}\text{In}_x)_2\text{O}_3$  alloys**

Maria Barbara Maccioni, Francesco Ricci, Vincenzo Fiorentini, *Journal of Physics. Conference Series*, 566; p. 1-4 (2014) [doi: 10.1088/1742-6596/566/1/012016](https://doi.org/10.1088/1742-6596/566/1/012016)

## **Book Chapters:**

### **Multiferroicity and magnetoelectricity in a doped topological ferroelectric**

Marco Scarrozza, Maria Barbara Maccioni, Alessio Filippetti, and Vincenzo Fiorentini.

*Nanosession: Multiferroics - High Transition Temperatures*, p.347-355, *Frontiers in Electronic Materials: A Collection of Extended Abstracts of the Nature Conference Frontiers in Electronic Materials*, Wiley and Sons (2012)

ISBN:9783527667703

[doi: 10.1002/9783527667703.ch54](https://doi.org/10.1002/9783527667703.ch54)

### **RELATIVITÀ E FISICA QUANTISTICA: UN MATRIMONIO LUNGO UN SECOLO**

**- Una proposta di Laboratorio di Meccanica Quantistica per le scuole secondarie superiori.**

C. M. Carbonaro, V. Fanti, F. Floris, M. B. Maccioni, A. Zurru, *Quaderno 28 La Fisica nella Scuola* (2020) ISSN: 1120-6527