

Scientific publications of Alberto Favaro

January 14, 2013

Peer-reviewed publications

1. I. Lindell, L. Bergamin and **A. Favaro**, “Decomposable medium conditions in four-dimensional representation”, IEEE Transactions on Antennas and Propagation 60 (2012), 367–376.
2. I. Lindell, A. Sihvola, L. Bergamin and **A. Favaro**, “Realization of the $D'B'$ boundary condition”, IEEE Antennas and Wireless Propagation Letters 10 (2011), 643–646.
3. P. Kinsler and **A. Favaro**, “Comment on: Reply to comment on: Perfect imaging without negative refraction”, New J. Phys. 13 (2011), 028001.
4. I. Lindell, L. Bergamin and **A. Favaro**, “The class of electromagnetic P -media and its generalization”, Progress In Electromagnetic Research B, PIER B 28 (2011), 143–162.
5. **A. Favaro** and L. Bergamin, “The non-birefringent limit of all linear, skewonless media and its unique light-cone structure”, Ann. Phys. (Berlin) 523 (2011), 383–401.
6. M. McCall, P. Kinsler and **A. Favaro**, “Reply to comment on: What is negative refraction?”, J. Mod. Optic. 57 (2010), 2103–2108.
7. M. McCall, **A. Favaro**, P. Kinsler and A. Boardman, “A spacetime cloak, or a history editor”, J. Opt. 13 (2010), 024003.
8. P. Kinsler, **A. Favaro** and M. McCall, “Four Poynting theorems”, Eur. J. Phys. 30 (2009), 983–993.

9. **A. Favaro**, M. McCall and P. Kinsler, “Comment on: Correct definition of the Poynting vector in electrically and magnetically polarizable medium reveals that negative refraction is impossible”, *Optics Express* 17 (2009), 15167-15169.

Additional publications

1. **A. Favaro**, “Recent advances in classical electromagnetic theory”, PhD Thesis, Imperial College London (2012).
2. **A. Favaro**, M. McCall, P. Kinsler, L. Bergamin and S. Carloni, “Analogue transformation acoustics: covariant methodology in transformational acoustics”, Technical Report for the European Space Agency’s Ariadna project 11-1301a (2012).

Conference proceedings

1. M. McCall, P. Kinsler, and **A. Favaro**, “All kinds of cloaks, all kinds of transformations”, in “Metamaterials: fundamentals and applications IV”, A. Boardman, N. Engheta, M. Noginov and N. Zheludev Eds., *Proceedings of SPIE 8093* (2011), 31.
2. L. Bergamin and **A. Favaro**, “Negative index of refraction, perfect lenses and transformation optics – some words of caution”, *Proceedings of URSI-EMTS* (2010), 760–763.
3. M. McCall, P. Kinsler, **A. Favaro** and D. Censor, “What is negative refraction?”, in “Metamaterials: fundamentals and applications II”, M. Noginov, N. Zheludev, A. Boardman and N. Engheta Eds., *Proceedings of SPIE 7392* (2009), 57.

Conference contributions

1. **A. Favaro** and F. Hehl, “Fresnel versus Kummer surfaces: geometrical optics in dispersionless linear (meta)materials and vacuum”, WPI Workshop on Electromagnetic Spacetimes, Vienna, Austria, November 2012 (Invited Talk).

2. **A. Favaro**, L. Bergamin, I. Lindell and Y. Obukhov, “Pre-metric electrodynamics, electric-magnetic duality and closure relations”, 2nd GIF Workshop, Jerusalem, Israel, February 2012 (Invited Talk).
3. I. Lindell, A. Sihvola, L. Bergamin and **A. Favaro**, “Realization of the $D'B'$ boundary in terms of a metamaterial”, Metamaterials 2011, Barcelona, Spain, October 2011.
4. P. Kinsler, M. McCall and **A. Favaro**, “All kinds of cloaks, all kinds of transformations: a general theory of transformation mechanics”, Metamaterials 2011, Barcelona, Spain, October 2011 (Poster).
5. I. Lindell, L. Bergamin and **A. Favaro**, “Differential forms and decomposable media”, Progress In Electromagnetic Research Symposium (PIERS), Suzhou, China, September 2011.
6. P. Kinsler, M. McCall and **A. Favaro**, “All kinds of cloaks, all kinds of transformations: a general theory of transformation mechanics”, SPIE 2011, S. Diego, USA, August 2011.
7. I. Lindell, L. Bergamin and **A. Favaro**, “The class of decomposable media in four-dimensional representation”, URSI-GASS 2011, Istanbul, Turkey, August 2011.
8. **A. Favaro** and L. Bergamin, “Skewonless media with no birefringence”, 475th Heraeus Seminar, Bad Honnef, Germany, March 2011.
9. M. McCall, **A. Favaro**, P. Kinsler and A. Boardman, “A new cloaking paradigm: the space-time cloak”, Metamaterials 2010, Karlsruhe, Germany, September 2010.
10. M. McCall, **A. Favaro**, P. Kinsler and A. Boardman, “A new cloaking paradigm: the space-time cloak”, Photon’10, Southampton, UK, August 2010.
11. **A. Favaro** and L. Bergamin, “Negative index of refraction, perfect lenses and transformation optics – some words of caution”, URSI-EMTS 2010, Berlin, Germany, August 2010.
12. M. McCall, **A. Favaro**, P. Kinsler and A. Boardman, “Dynamic electromagnetic cloaking: external field control, magneto-optics, and novel designs”, SPIE 2010, S. Diego, USA, August 2010.

13. P. Kinsler, **A. Favaro** and M. McCall, “Dispersion, causality, and negative materials”, Auxetics 2010, Islands of Gozo and Malta, Malta, July 2010.
14. **A. Favaro**, M. McCall and P. Kinsler, “Coordinate-free negative phase velocity”, META’10, Cairo, Egypt, February 2010.
15. P. Kinsler, **A. Favaro** and M. McCall, “Dressed for success: a Poynting vector for each season”, CLEO Pacific Rim, Shanghai, China, August/September 2009.
16. P. Kinsler, **A. Favaro** and M. McCall, “Poynts of the compass: a flux vector that’s going your way”, Metamaterials 2009, London, UK, August 2009.
17. **A. Favaro**, P. Kinsler and M. McCall, “A coordinate-free criterion for negative phase velocity propagation”, Metamaterials 2009, London, UK, August 2009 (Poster).