

Publications

Refereed Journal Articles

- 2022 Lea Sirota. Klein-like tunneling of sound via negative index metamaterials. *Physical Review Applied*, volume 18, page 014057. APS, 2022.
- 2022 Or Lasri and Lea Sirota. Temporal negative refraction. *arXiv preprint arXiv:2209.10647*, 2022.
- 2022 Sayan Jana and Lea Sirota. Artificial Hawking black hole radiation using feedback-based mechanical circuits. *arXiv preprint arXiv:2210.00464*, 2022.
- 2021 Lea Sirota, Daniel Sabsovich, Yoav Lahini, Roni Ilan, and Yair Shokef. Real-time steering of curved sound beams in a feedback-based topological acoustic metamaterial. *Mechanical Systems and Signal Processing*, volume 153, page 107479. Elsevier, 2021.
- 2020 Lea Sirota, Roni Ilan, Yair Shokef, and Yoav Lahini. Non-Newtonian topological mechanical metamaterials using feedback control. *Physical Review Letters*, volume 125, page 256802. APS, 2020.
- 2020 Lea Sirota and Anuradha M. Annaswamy. Active boundary and interior absorbers for one-dimensional wave propagation: Application to transmission-line metamaterials. *Automatica*, volume 117, pages 108–855, 2020.
- 2019 Lea Sirota, Fabio Semperlotti, and Anuradha M Annaswamy. Tunable and reconfigurable mechanical transmission-line metamaterials via direct active feedback control. *Mechanical Systems and Signal Processing*, volume 123, pages 117–130. Elsevier, 2019.
- 2019 Lea Sirota and Anuradha M Annaswamy. Active wave suppression in the interior of a one-dimensional domain. *Automatica*, volume 100, pages 403–406. Elsevier, 2019.
- 2018 Lea Sirota and Anuradha M Annaswamy. Modeling and control of wave propagation in a ring with applications to power grids. *IEEE Transactions on Automatic Control*, volume 64, pages 3676–3689. IEEE, 2018.
- 2015 Lea Sirota and Yoram Halevi. Fractional order control of the two-dimensional wave equation. *Automatica*, volume 59, pages 152–163. Elsevier, 2015.
- 2014 Lea Sirota and Yoram Halevi. The complete infinite series solution of systems governed by the wave equation with boundary damping. *Wave Motion*, volume 51, pages 114–124. Elsevier, 2014.
- 2013 Lea Sirota and Yoram Halevi. Modal representation of second order flexible structures with damped boundaries. *Journal of Vibration and Acoustics*, volume 135, page 064508. American Society of Mechanical Engineers, 2013.
- 2013 Lea Sirota and Yoram Halevi. Extended d'Alembert solution of finite length second order flexible structures with damped boundaries. *Mechanical Systems and Signal Processing*, volume 39, pages 47–58. Elsevier, 2013.
- 2010 Lea Sirota and Yoram Halevi. Free response and absolute vibration suppression of second-order flexible structures—the traveling wave approach. *Journal of Vibration and Acoustics*, volume 132, page 031008. American Society of Mechanical Engineers, 2010.

In Refereed Conference Proceedings

- 2022 Lea Sirota. Exploring dynamical stability of one-dimensional non-Hermitian classical systems. In *Sixteenth International Congress on Artificial Materials for Novel Wave Phenomena (Metamaterials)*, pages 407–409. IEEE, 2022.
- 2022 Or Lasri and Lea Sirota. Double-negative temporal acoustic metamaterials. In *Sixteenth International Congress on Artificial Materials for Novel Wave Phenomena (Metamaterials)*, pages 253–255. IEEE, 2022.
- 2022 Sayan Jana and Lea Sirota. A classical-mechanical analogue of Hawking black hole radiation. In *Sixteenth International Congress on Artificial Materials for Novel Wave Phenomena (Metamaterials)*, pages 205–207. IEEE, 2022.
- 2021 Lea Sirota. Quantum tunneling analogue in real-time-controlled mechanical metamaterials. In *Fifteenth International Congress on Artificial Materials for Novel Wave Phenomena (Metamaterials)*. IEEE, Presented, 2021.
- 2020 Lea Sirota, Yoav Lahini, Roni Ilan, and Yair Shokef. Feedback-based topological mechanical metamaterials. In *Fourteenth International Congress on Artificial Materials for Novel Wave Phenomena (Metamaterials)*, pages 415–417. IEEE, 2020.
- 2017 Lea Sirota and Anuradha M Annaswamy. Spatially continuous modeling and control of swing dynamics in electric power grids. *IFAC-PapersOnLine*, volume 50, pages 4400–4405. Elsevier, 2017.
- 2016 Lea Sirota, Yoram Halevi, and Miroslav Krstic. On the relationship between the Absolute Vibration Suppression and Back-stepping methods in control of the wave equation with possibly unstable boundary conditions. In *American Control Conference (ACC), 2016*, pages 6709–6714. IEEE, 2016.
- 2015 Lea Sirota and Yoram Halevi. Fractional order control of flexible structures governed by the damped wave equation. In *American Control Conference (ACC), 2015*, pages 565–570. IEEE, 2015.
- 2014 Lea Sirota and Yoram Halevi. Wave based vibration control of membranes. In *American Control Conference (ACC), 2014*, pages 2729–2734. IEEE, 2014.
- 2012 Lea Sirota and Yoram Halevi. Modeling and control of flexible second order systems with damped boundaries. In *Engineering Systems Design and Analysis*, volume 44847, pages 607–613. American Society of Mechanical Engineers, 2012.
- 2012 L Sirota and Y Halevi. Traveling and standing waves in structures with damped boundaries. In *International Conference on Noise and Vibration Engineering, ISMA, Leuven, Belgium, 2012*.
- 2008 Lea Sirota, Irit Peled, and Yoram Halevi. Vibration suppression of flexible structures using the infinite dimensional laplace domain approach. In *Engineering Systems Design and Analysis*, volume 48364, pages 431–440, 2008.