

## **Metallic Helix Array as a Broadband Wave Plate**

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### Abstract:

This study demonstrates theoretically and experimentally that a metallic helix array can operate as a highly transparent broadband wave plate in propagation directions perpendicular to the axis of helices. The functionality arises from a special property of the helix array, namely, that two branches of elliptically right-handed and left-handed polarized states are nearly rigidly shifted in frequency and their dispersions are controlled by different mechanisms that can be independently tuned by structural parameters.

### About the speaker:

Prof Hongqiang Li received his PhD degree from the Institute of Physics, Chinese Academy of Sciences, in 1997. He joined the Physics Department, Tongji University, became associate professor in 2000, and professor in 2005. His main research interests include metamaterials, plasmonics, and photonic crystals. He has published over 50 SCI papers and 10 authorized patents.

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