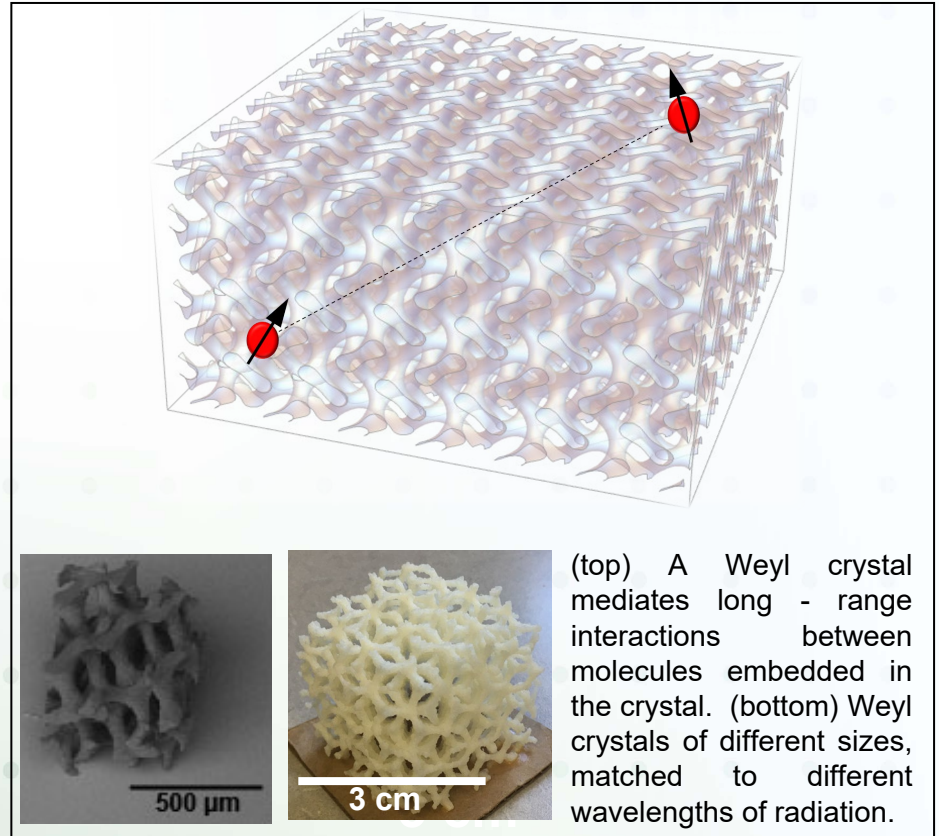


Energy Transfer Inside of a Topological Photonic Materials

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Topological photonic materials fundamentally alter how light interacts with matter. Usually, molecules interact with each other only over very short distances of just nanometers. Even so, these interactions are important, as the transfer of energy between molecules by light is central to the operation of devices like LEDs and solar cells.

The Wisconsin MRSEC has shown that molecules inside in a type of topological photonic material called a Weyl crystal can exchange energy over much larger distances. The intricate twisting structure of the material uses light to connect one molecule to others much farther away. Developing photonic Weyl crystals may contribute to more efficient LEDs and solar cells and improve molecular sensors.



“Extended Range of Dipole-Dipole Interactions in Periodically Structured Photonic Media” Lei Ying, Ming Zhou, Michael Mattei, Boyuan Liu, Paul Campagnola, Randall H. Goldsmith, and Zongfu Yu, *Phys. Rev. Lett.* **123**, 173901 (2019). DOI: 10.1103/PhysRevLett.123.173901