# Article information:

Exploiting extraordinary topological optical forces at bound states in the continuum | Science Advances
<https://www.science.org/doi/full/10.1126/sciadv.ade7556>

# Article summary:

1. Polarization singularities and topological vortices in photonic crystal slabs centered at bound states in the continuum (BICs) can be attributed to zero amplitude of polarization vectors.

2. Topological force carries force topological charge and can be used for trapping and repelling nanoparticles.

3. By tailoring asymmetry of the photonic crystal slab, topological force will contain spinning behavior and shifted force zeros, which can lead to three-dimensional asymmetric trapping.

# Article rating:

Appears well balanced: The article presents the information in a reliable and balanced way, without biases and prejudices. The claims made in the article are well supported and, where applicable, all sides of the argument are given opportunity to present their point of view. The article appears trustworthy and reliable.

# Article analysis:

The article is written by a team of researchers from various universities, which adds to its trustworthiness as it is based on research conducted by experts in the field. The article provides detailed information about the research conducted, including the design principle of BIC protected topological optical forces, the results obtained from experiments, and potential applications of this technology. The authors also provide evidence for their claims through references to previous studies and experiments conducted by other researchers in the field. However, there are some points that could have been explored further such as possible risks associated with this technology or counterarguments that could have been presented to provide a more balanced view on the topic. Additionally, there is no mention of any promotional content or partiality in the article which makes it reliable and trustworthy overall.

# Topics for further research:

* Risks associated with BIC protected topological optical forces
* Counterarguments for BIC protected topological optical forces
* Potential applications of BIC protected topological optical forces
* Previous studies on BIC protected topological optical forces
* Experimental results of BIC protected topological optical forces
* Design principles of BIC protected topological optical forces

# Report location:

<https://www.fullpicture.app/item/1b18ee74a10ffc72bc1b297c17b640a0>