# Article information:

Photonic spin Hall effect: fundamentals and emergent applications  
<https://www.oejournal.org/article/doi/10.29026/oes.2022.220007>

# Article summary:

1. The photonic spin Hall effect (SHE) is a fundamental optical phenomenon that refers to the transverse spin-dependent splitting of photons relative to the geometric optical trajectory.

2. It originates from the spin-orbit interaction and can be attributed to the optical angular momentum, two geometric phases, and total momentum conservation of all photons.

3. It was first experimentally observed in 2008 by Hosten and Kwiat at an air-glass interface using weak measurements.

# Article rating:

May be slightly imbalanced: The article presents the information in a generally reliable way, but there are minor points of consideration that could be explored further or claims that are not fully backed by appropriate evidence. Some perspectives may also be omitted, and you are encouraged to use the research topics section to explore the topic further.

# Article analysis:

The article provides a comprehensive overview of the photonic spin Hall effect (SHE), its fundamentals, and emergent applications. The article is well written and provides a clear explanation of the SHE phenomenon, its origins, and how it was first experimentally observed in 2008 by Hosten and Kwiat at an air-glass interface using weak measurements. The article also mentions potential applications for this phenomenon such as reducing heat loss in materials and contributing to spin-based electronic components.

The article does not appear to have any biases or one-sided reporting as it presents both sides equally with no promotional content or partiality. All claims are supported with evidence from previous research studies, experiments, and observations which makes them reliable and trustworthy. Furthermore, possible risks associated with this phenomenon are noted throughout the article which adds to its credibility.

The only missing point of consideration is that there could have been more discussion on unexplored counterarguments related to this phenomenon as well as further exploration into potential applications for it beyond what has already been mentioned in the article.

# Topics for further research:

* Photonic spin Hall effect applications
* Photonic spin Hall effect limitations
* Photonic spin Hall effect theory
* Photonic spin Hall effect simulations
* Photonic spin Hall effect materials
* Photonic spin Hall effect experiments

# Report location:

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