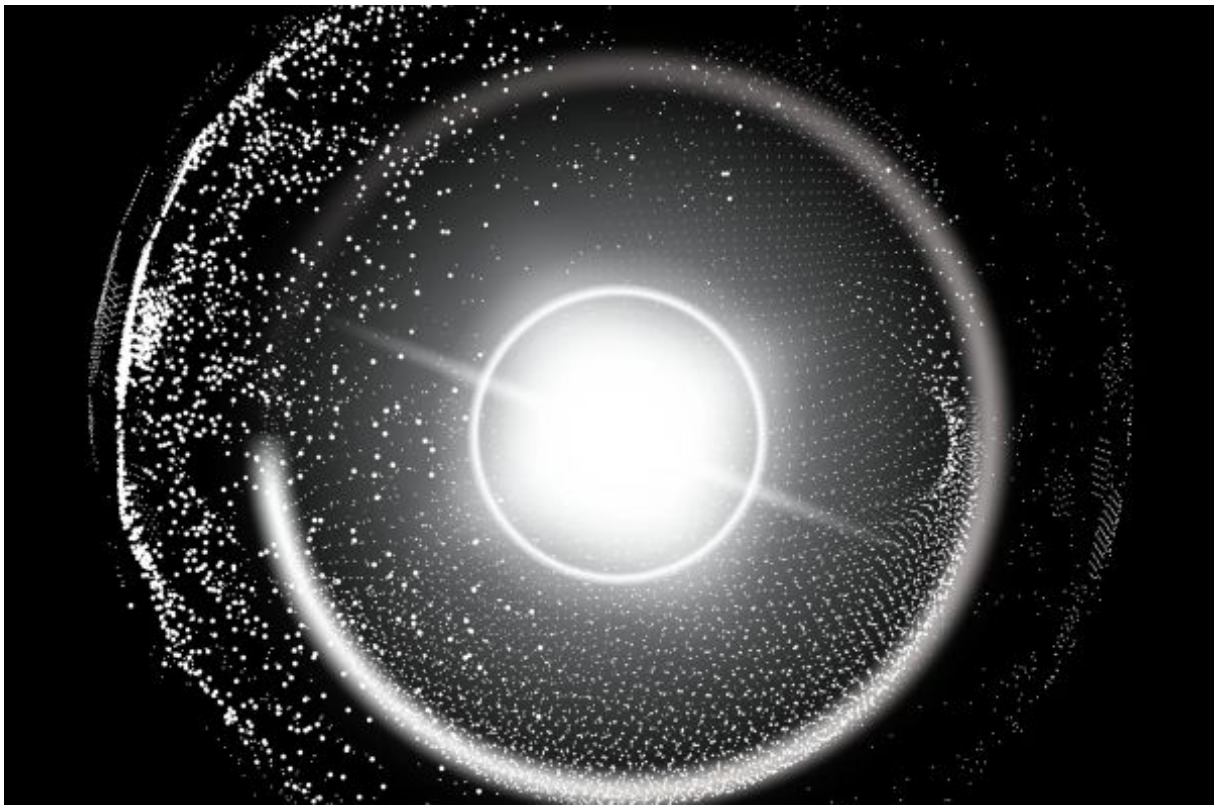

ACS Photonics special issue on Photonics for Energy

The journal ACS Photonics dedicates its latest special issue to Photonics for Energy, featuring an editorial by ICFO Professors Dr. Georgia Papadakis and Dr. Pelayo Garcia de Arquer, together with Prof. Emiliano Cortes from the Nanoinstitute Munich.

May 10, 2024

Earth is powered by sunlight, and photonic sciences are crucial in the much-needed energ transition towards finding cleaner and greener alternative energy sources. That is how IC O professors **Dr. Georgia Papadakis** and **Dr. Pelayo Garcia de Arquer** open the editorial of th latestACS Photonics special issue, dedicated to Photonics for Energy, that delves into how photonics contributes to harvesting solar and thermal energy to facilitate their direct conversion into electricity and chemical fuels. Both Professors Papadakis and Garcia de Arquer are part of ICFO's Clean Planet Program, that aims to contribute to the mitigation of climate change by developing and implementing renewable, clean energy technologies. The editorial reviews advances reported in the articles that constitute the issue, explaining how photonics has enabled outstanding breakthroughs in technologies such as photovoltaics

by remarkably improving their efficiency, or have promoted the finding of new ways o concentrating sunlight while reducing the economic costs of solar electricity. It also goe over recent developments in the field of thermophotovoltaic systems, which convert hea into electricity; in recycling waste heat and using smart materials; in the use of plasmon c structures to catalyse chemical reactions to convert sunlight into fuels like hydrogen, r using spectroscopies to understand the functioning of energy devices

? Read the Editorial: https://pubs.acs.org/doi/10.1021/acsphotonics.4c00387
Read the issue here: https://pubs.acs.org/toc/apchd5/11/4