

In the Limelight

The *Journal of Physical Chemistry Letters* (*JPC Letters*) has been fortunate to publish the top papers in physical chemistry—some of which have had an extraordinary impact. Following our launch of “Spotlights” last year, we will now publish complementary Viewpoint articles called “In the Limelight”. The motivation for this is to document breakthroughs and research directions that are quickly capturing the attention of the field. Discussing the science in these papers and examining citation statistics will provide a first step toward understanding why these articles have had impact and what might be areas of importance to follow in the future.

Following our launch of “Spotlights” last year, we will now publish complementary Viewpoint articles called “In the Limelight”.

Here we highlight five 2014 papers that have captured the attention of the physical chemistry community (Table 1). These 5 papers were cited an extraordinary 938 times during 2016 (Figure 1; see Figure 2 for the usage demographics for *JPC Letters*) and are still proving their impact 3 years after publication, with 439 citations in the first half of 2017. Perhaps not surprisingly, four of these papers are primary research papers reporting advances related to organometallic halide perovskites; the recent identification of these compounds as potential candidates for making high-performance solar cells has captured the imagination of many research groups. Two of these papers describe investigations of hysteresis in current–voltage sweeps used to determine the performance of organometallic halide perovskite solar cells. Understanding this hysteresis has been important because it suggests possible photomodulation of the semiconductor layer that might have implications for the mechanisms influencing the performance of these solar cells. Another paper reports how the absorption edge of organometallic halide perovskite films can be changed and how that change, in turn, influences photovoltaic performance. A key finding of the paper is that the absorption onset is particularly steep. In the other report on organometallic halide perovskite systems, the high photoluminescence efficiency is described, and it is discussed how this makes the materials—already famous for their solar energy conversion—excellent candidates for optically pumped lasers. The final highly cited paper is a Perspective article that reviews graphitic carbon nitride photocatalysts. The physicochemical properties, band structure, heteroatom doping, and use in heterojunctions are highlighted as reasons why these materials have promise for effective hydrogen production photocatalysts.

As *JPC Letters* continues to receive submissions that challenge existing thinking in a wide range of physical chemistry areas, we are sure to publish groundbreaking articles that bolster our standing among the premier journals in our field.

Gregory D. Scholes¹

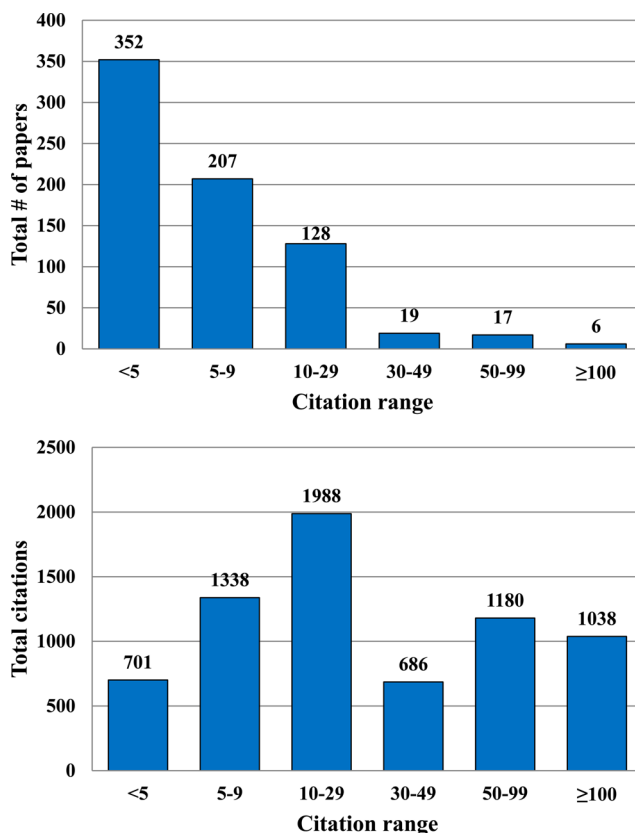


Figure 1. Data for citations accrued in 2016 of papers published in *JPC Letters* in 2014. The upper panel shows the number of 2014 papers in the citation range. The lower panel shows the number of total citations received by the papers in each range. For example, the six 2014 papers that were cited more than 100 times in 2016 (as shown in the upper panel) received a total of 1038 citations in 2016 (as shown in the lower panel). Source: Web of Science, Clarivate Analytics (accessed July 10, 2017).

Discussing the science in these papers and examining citation statistics will provide a first step toward understanding why these articles have had impact and what might be areas of importance to follow in the future.

Princeton University
Juan Bisquert
Universitat Jaume I
Maria Forsyth
Deakin University

Published: August 3, 2017

Table 1. Five Most Highly Cited *JPC Letters* Papers Published in 2014

title	authors	journal	year	volume	pages	DOI
Anomalous Hysteresis in Perovskite Solar Cells	Snaith, H.J.; Abate, A.; Ball, J.M.; Eperon, G.E.; Leijtens, T.; Noel, N.K.; Stranks, S.D.; Wang, J.T.; Wojciechowski, K.; Zhang, W.	<i>JPC Letters</i>	2014	5	1511–1515	10.1021/jz500113x
High Photoluminescence Efficiency and Optically Pumped Lasing in Solution-Processed Mixed Halide Perovskite Semiconductors	Deschler, F.; Price, M.; Pathak, S.; Klimberg, L.E.; Jarausch, D.-D.; Högler, R.; Hüttner, S.; Leijtens, T.; Stranks, S.D.; Snaith, H.J.; et al.	<i>JPC Letters</i>	2014	5	1421–1426	10.1021/jz5005285
Parameters Affecting <i>I</i> – <i>V</i> Hysteresis of CH ₃ NH ₃ PbI ₃ Perovskite Solar Cells: Effects of Perovskite Crystal Size and Mesoporous TiO ₂ Layer	Kim, H.-S.; Park, N.-G.	<i>JPC Letters</i>	2014	5	2927–2934	10.1021/jz501392m
Organometallic Halide Perovskites: Sharp Optical Absorption Edge and Its Relation to Photovoltaic Performance	De Wolf, S.; Holovsky, J.; Moon, S.-J.; Löper, P.; Niesen, B.; Ledinsky, M.; Haug, F.-J.; Yum, J.-H.; Ballif, C.	<i>JPC Letters</i>	2014	5	1035–1039	10.1021/jz500279b
g-C ₃ N ₄ -Based Photocatalysts for Hydrogen Generation	Cao, S.; Yu, J.	<i>JPC Letters</i>	2014	5	2101–2107	10.1021/jz500546b

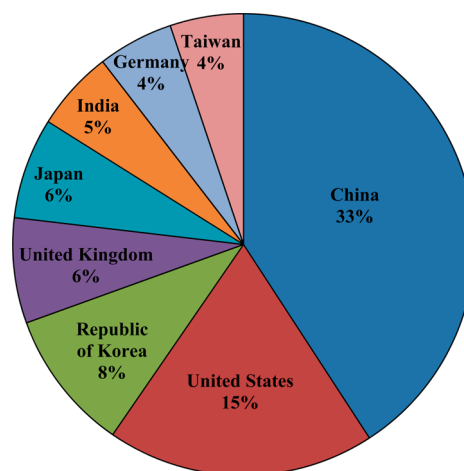


Figure 2. Eight countries shown account for 81% of all online usage (to date) of papers published in *JPC Letters* in 2014. Eighty other countries account for the remaining 19% (not shown).

Benedetta Mennucci

University of Pisa

Oleg Prezhdo

University of Southern California

Francisco Zaera

University of California, Riverside

Timothy Zwi

Purdue University

George C. Schatz

Northwestern University

■ AUTHOR INFORMATION

ORCID

Gregory D. Scholes: 0000-0003-3336-7960

Notes

The authors declare no competing financial interest.