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***S*-index: Measuring significant, not average, citation performance**

MANOLIS ANTONOYIANNAKIS, (1) Physical Review Letters, (2) Columbia University, (3) European Research Council — We recently [1] introduced the “citation density curve” (or cumulative impact factor curve) that captures the full citation performance of a journal: its size, impact factor, the maximum number of citations per paper, the relative size of the different-cited portions of the journal, etc. The citation density curve displays a universal behavior across journals. We exploit this universality to extract a simple metric (the “*S*-index”) to characterize the citation impact of “significant” papers in each journal. In doing so, we go beyond the journal impact factor, which only measures the impact of the average paper. The conventional wisdom of ranking journals according to their impact factors is thus challenged. Having shown the utility and robustness of the *S*-index in comparing and ranking journals of different sizes but within the same field, we explore the concept further, going beyond a single field, and beyond journals. Can we compare different scientific fields, departments, or universities? And how should one generalize the citation density curve and the *S*-index to address these questions? [1] M. Antonoyiannakis and S. Mitra, “Is PRL too large to have an ‘impact’?”, Editorial, Physical Review Letters, December 2008.

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