

# Submission Details: pap168s1

Submitted: 2017-12-01 14:02

## Title

*Title:* Evaluating the Scientific Impact of XSEDE

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**Additional Information**

*Summarize the proposed topic.*

The paper uses the bibliometrics approach to evaluate the scientific impact of XSEDE. By acquiring the publication and citation data from multiple sources we compare the impact of the publications (judging by the citation count) and how they are compared to the peers that were published in the same journals, or in the same field of study. By crunching millions of publication data entries we normalized the citation count by field of study for comparison to eliminate the impact of the difference of field of study. We also introduced a novel approach to compare the target publication group with their peers published in the same publication venue, to further show how the target publication group performs compared to their peers within the same publication venue. A previous work was only submitted as a poster before. This work significantly enhances our previous work by doing a long term study over multiple years, adding many millions of references to our peers comparison database, and integrating significant statistical analysis not available in other publications.

*Describe the proposed organizational format.*

The paper introduces the problem and describes the available data set first, followed by how we retrieved, cleaned up, and curated the data for the analyses. Then we stated the methods of how we calculated the citation-based metrics and how they compare to the peers from the same journal or the field of study. Specifically, we provides the Field Weighted Citation Impact (FWCI) metrics for XSEDE publications, as well as the peers comparison study results when comparing XSEDE publications with their peers published in the same journal issues.

*Who is the intended audience?*

Funding agency officials; XSEDE resource allocation committee; HPC and computational research centers management and operational personnel; researchers and management team from universities and similar organizations.

*Are there any special technical requirements (A/V, network, power etc.)?* NO

**Reference 1:**

*Reference(s): If there has been a prior instance of the proposed (or similar) activity, provide the URL.*

<https://dl.acm.org/citation.cfm?id=2616507>

**Reference 2:**

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## **Abstract**

### *Abstract (Maximum 250 words):*

This paper uses the bibliometrics approach to evaluate the scientific impact of XSEDE. By utilizing publication data from various sources, e.g., ISI Web of Science and Microsoft Academic Graph, we calculate the impact metrics of XSEDE publications and show how they compare with the rest from the same field of study, or the peers from the same journal issue. We explain in detail how we retrieved, cleaned up, and curated millions of related publication entries. We then explain the metrics we used for evaluation and comparison, and the methods how we calculate them. Detailed analyses results of Field Weighted Citation Impact and the peers comparison will be presented. We also briefly showcase how the same approaches could be used to evaluate publications from a similar organization or institute, to show the generalization and ubiquitous nature of the presented evaluation approach.