

# Measuring the Impact of Individual Articles

Ying Chen

Department of Mathematics, National University of Singapore, Singapore

## Abstract

We proposed the Article's Scientific Prestige (ASP) metric in measuring the scientific impact of individual articles in the large-scale hierarchical and multi-disciplined citation network. Computed based on the eigenvector centrality, ASP considers both direct and indirect citations, and provides steady-state evaluation cross different disciplines. We found that ASP and #Cit are not aligned for most articles, with a growing mismatch amongst the less cited articles. While both metrics are reliable for evaluating the prestige of articles such as Nobel Prize winning articles, ASP tends to provide more persuasive rankings than #Cit when the articles are not highly cited. The journal grade, that is eventually determined by a few highly cited articles, is unable to properly reflect the scientific impact of individual articles. The number of references and coauthors are less relevant to scientific impact, but subjects do make a difference.