

Abstract Submitted  
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**A scientific impact indicator based on the latent “citability” of a researcher’s publications**<sup>1</sup> JOAO MOREIRA, XIAOHAN ZENG, Department of Chemical and Biological Engineering, Northwestern University, Evanston IL, USA, LUIS AMARAL, Northwestern Institute on Complex Systems, Northwestern University, Evanston IL, USA — How to quantify the impact of a scientist’s body of work is currently a matter of great concern. The use of bibliometric indicators, such as the *h*-index or the Journal Impact Factor, have become widespread despite their known limitations. We surmise that many of the deficiencies of existing bibliometric indicators arise from their heuristic nature. Here, we pursue a principled approach to the development of an indicator to quantify the scientific impact of individual researchers, grounded on the functional form of the distribution of the ultimate number of citations. We validate our approach using the publication records of 1,283 researchers from seven scientific disciplines. Our approach has three distinct advantages. First, it accurately captures the overall scientific impact of researchers, as measured by ultimate citation counts. Second, in contrast to prior bibliometric indicators, our proposed measure does not depend on the number of publications, offering the possibility to compare researchers at different career stages. Third, more than other measures, our index is resistant to manipulation and rewards publication quality over quantity.

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