

Title :

Geant4 Silver Anniversary: 25 years enabling scientific production

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Abstract :

Geant4 was first released 25 years ago and its main reference paper was published 20 years ago. Nowadays, having achieved approximately 16000 citations, this article is the most cited publication in Particle and Fields Physics, Nuclear Physics, Nuclear Science and Technology, and Instruments and Instrumentation journals. We assess Geant4 contribution to scientific research over the past 25 years through a scientometric analysis of the results it has been associated with. The scientometric data collected from scholarly literature and databases are evaluated with methods pertaining to econometrics and ecology to quantify relevant traits, diversity and disparity in their scientific and geographic distributions, and to identify statistically significant trends. The analysis reviews the contribution of Geant4 to the field - experimental particle physics - that originally motivated its development and highlights its role in other research domains including nuclear physics and engineering, astrophysics and space science, biomedical physics, archeology and the cultural heritage.