

Pemetaan struktur intelektual literatur gempa bumi di Indonesia dari tahun 2004-2018: analisis co-citation = Mapping the intellectual structure of earthquakes literature in Indonesia from 2004-2018: a co-citation analysis / Ariska Oktavia

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Deskripsi Lengkap: <https://lib.ui.ac.id/detail?id=20491508&lokasi=lokal>

Abstrak

ABSTRAK

Gempa ganda yang terjadi di sepanjang patahan Sumatra (explosive eruption) merupakan pemicu pertumbuhan literatur tentang kegempaan di Indonesia. Kerusakan akibat gempa bumi (masonry wall), masalah geoteknis, ketidakstabilan lereng, perubahan stres, gempa dangkal dan dalam, keruntuhan bangunan, konstruksi perumahan, seismik aktif, berbasis aturan fuzzy, kode bangunan Indonesia, dan parameter pecah (Sumatra earthquake), dinamika pantai yang kompleks dan kebijakan tentang pantai (green reconstruction) merupakan topik yang banyak ditulis dalam bidang gempa bumi di Indonesia. Namun sampai saat ini belum dipetakan struktur ilmiah jaringan ko-sitasi yang menggunakan kata kunci untuk menganalisis perkembangan dan tren penelitian dalam bidang gempa bumi di Indonesia. Tujuan dari penelitian ini adalah untuk memetakan dan mengevaluasi struktur intelektual bidang gempa bumi di Indonesia dari tahun 2004-2018 dengan menggunakan teknik ko-sitasi (co-citation) berdasarkan Document Co-citation Analysis (DCA), Author Co-citation Analysis (ACA), Journal Co-citation Analysis (JCA), dan Co-occurrence/ kata kunci. Metode bibliometrika dan teknik visualisasi ilmiah dari perangkat lunak CiteSpace digunakan dalam penelitian ini. Sebanyak 898 dokumen artikel yang berisi referensi 21.238 sitasi yang valid, dan merupakan data primer yang diunduh dari Scopus. Hasil penelitian menunjukkan bahwa dokumen yang memiliki pengaruh terhadap perkembangan bidang gempa bumi di Indonesia ditulis oleh Seth Stein dan Emile A. Okal. Dokumen tersebut terbit di jurnal Nature, dengan judul Speed and size of the Sumatra earthquake. Peneliti yang menjadi rujukan utama adalah Seth Stein yang memperoleh nilai kekuatan (Strength) tinggi 7,341, diikuti oleh Rudolff A (4,786), dan Fujii Y (4,650). Journal of Geophysical Research memperoleh sitasi yang paling tinggi yaitu 176, sedangkan Natural Hazards dan Nature adalah jurnal yang menjadi pusat rujukan. Andri Dian (AD) Nugraha menjadi penulis paling produktif dan berpengaruh dalam bidang gempa bumi di Indonesia selama periode 15 tahun (2004-2018). AD Nugraha, S Widiyantoro, A Gunawan, G Suantika penulis berpengaruh secara kolaboratif. Institut Teknologi Bandung (ITB), yaitu Department of Civil Engineering, Civil Engineering Department, Department of Physics, Geophysical Engineering, dan Ganesha adalah lembaga utama yang meneliti tentang gempa bumi di Indonesia. Indonesia memberikan kontribusi terbesar terhadap perkembangan literatur mengenai kegempaan, sementara China, Thailand, Prancis, Belanda, dan Kanada adalah negara yang paling awal menghasilkan artikel tentang gempa bumi di Indonesia dimulai pada tahun 2005.

ABSTRACT

The double earthquake that occurred along the Sumatra fault was the trigger for the growth of literature about seismicity in Indonesia. Masonry wall, geotechnical problems, slope instability, stress changes; shallow and deep earthquakes, building collapse, housing construction; Active seismic, fuzzy-based rules, Indonesian building codes, and broken parameters (sumatra earthquake), complex beach dynamics and green reconstruction policies are widely written in the field of earthquakes in Indonesia. But until now there has not been a map of the intellectual structure of the citation networks that uses keywords to analyze developments and research trends in the field of earthquakes in Indonesia. The purpose of this study was to map and evaluate the intellectual structure of the earthquake field in Indonesia from 2004-2018 using co-citation techniques based on Document Co-citation Analysis (DCA), Author Co-citation Analysis (ACA), Journal Co-citation Analysis (JCA), and Co-occurrence / keywords. Bibliometric methods and scientific visualization techniques from CiteSpace software were used in this study. A total of 898 article documents containing 21,238 valid citations were primary data downloaded from Scopus. The results of the study show that documents that had an influence on the development of the earthquake field in Indonesia were written by Seth Stein and Emile A. Okal. The document was published in the journal Nature, the title was Speed and size of the Sumatra earthquake. The researcher who became the main reference was Seth Stein who obtained a high strength of 7,341, followed by Rudolff A (4,786), and Fujii Y (4,650). The Journal of Geophysical Research gets the highest citation, which is 176, while Natural Hazards and Nature are journals that are the reference centers. Andri Dian (AD) Nugraha became the most productive and influential writer in the field of earthquakes in Indonesia over a period of 15 years (2004-2018). AD Nugraha, S Widiyantoro, A Gunawan, G Suantika, the writer influences collectively. Bandung Institute of Technology (ITB), namely the Department of Civil Engineering, Civil Engineering Department, Department of Physics, Geophysical Engineering, and Ganesha are the main institutions that research earthquakes in Indonesia. Indonesia was the biggest contribution to the development of literature regarding seismicity, while China, Thailand, France, the Netherlands, and Canada were the earliest countries to produce articles about earthquakes in Indonesia starting in 2005.