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APPLYING SYSTEMATIC REVIEW AS A TOOL FOR THE ANALYSIS AND CLASSIFICATION OF PAPERS PUBLISHED IN JOURNALS AND CONFERENCES RELATED TO PLANETARY DEFENSE

Abstract

In 2013, the Cheliabinsk meteor entered the Earth's atmosphere over Russia undetected, killing more than 1,200 people. At that time, at the 56th session of UNCOPUOS, the creation of IAWN and SMPAG was endorsed by the United Nations in an attempt to establish a global governance mechanism for coordinating planetary defense efforts. Since then, the academic community has seen a significant increase in publications on the subject in congresses, books and scientific journals. Nevertheless, this paper aims to present the results of a systematic review of the literature using specific support software, analyzing works published on the subject from 2012 to 2024. Following a rigorous protocol, the main research question was defined and a search strategy was developed through a terminological mapping that sought to identify studies directly related to the topic, taking into account their inclusion in one of the phases of planetary defense proposed by NASA (detect and track, characterize, warn and advise, plan and implement, mitigate). We then established eligibility criteria for the studies (i.e., inclusion and exclusion criteria) and performed a preliminary analysis by reading the abstract of more than 800 papers found using these criteria. The selected papers were then analyzed and grouped into different categories. From the information extracted, it was possible to identify the areas of knowledge with the most publications, the most relevant authors, the most interesting topics, among others. Overall, the study allowed us to assess what is currently known about planetary defense and what we should continue to strive for in order to make progress on the topic. The study was peer-reviewed and used the DistillerSR software specifically designed for systematic literature review.