Journal of Law and Bibliometrics Studies
Homepage : https://journal.i-ros.org/index.php/JOLABIS
Email : jolabis@i-ros.org

e-ISSN 3109-3310
Vol. 1, No. 3, November 2025
© 2025 Journal of Law and Bibliometrics Studies

Parallel Dimensions of Knowledge: Bibliometric Insights into Metaphysics, Culture, and Modern Physics (2020-2025)

Rahmatta Thoriq Lintangesukmanjaya[1*], Dwikoranto[1], Ilmiawan Hakim[1]

[1]Universitas Negeri Surabaya, Surabaya, Indonesia

DOI : https://doi.org/10.63230/jolabis.1.3.100

Sections Info

Article history:
Submitted: September 28, 2025
Final Revised: November 27, 2025
Accepted: December 5, 2025
Published: December 8, 2025

Keywords:
Bibliomteric;
Meta Physics;
Multidisciplinary;
Parallel Dimensions.

ABSTRACT

Objective: *This study aims to analyze research trends on the concept of parallel worlds within metaphysical studies and its connections to both modern and classical physics. The focus is on exploring the relationship between metaphysical perspectives, cultural traditions, and scientific theories such as relativity, dimensions, and thermodynamics.* ***Method:*** *This research adopts a descriptive qualitative approach using a Systematic Literature Review (SLR) and bibliometric analysis. Data were collected from various international academic databases covering publications from the last five years and were analyzed thematically to identify patterns, conceptual linkages, and emerging research trends.* ***Results:*** *The analysis reveals a growing number of publications discussing parallel worlds and metaphysics over the past five years. Many studies integrate traditional and cultural wisdom with modern physics, positioning the field as a multidisciplinary endeavor bridging philosophy and science.* ***Novelty:*** *This study finds that parallel worlds are closely connected to metaphysics and physics, particularly in the context of space-time dimensions, relativity, quantum mechanics, and thermodynamic principles. The integration of cultural, philosophical, and scientific perspectives highlights that metaphysics is not solely speculative but can be examined scientifically through interdisciplinary approaches.*

INTRODUCTION

In the development of modern science, humans continually strive to understand the nature of reality and the universe as a whole. The concept of parallel worlds is an intriguing idea that is expected to bridge the gap between metaphysics and modern physical theories (Joshi et al., 2024). Through a multidisciplinary approach, scientists and philosophers hope to discover the integration of the material and nonmaterial dimensions and reinterpret human existence within the broader context of space and time (Ohno, 2021).

In reality, the study of parallel worlds is still often viewed as a speculative topic and is difficult to prove scientifically. In the classical metaphysical tradition, discussions of nonphysical dimensions are rooted in spiritual and cultural concepts (Norman & Walid, 2025). Meanwhile, modern physics, through the theories of relativity, quantum mechanics, and multidimensional space-time, has also begun to open up interpretive space for the possibility of parallel realities (Disia, 2024). However, the relationship between these two realms (metaphysics and physics) is rarely studied integratively in academic research.

The gap that emerges is the lack of comprehensive studies that systematically explore how the concept of parallel worlds is understood and connected between metaphysical and physical perspectives (Ding et al., 2025). Some research focuses more on

philosophical aspects without scientific theoretical support, while physics research tends to neglect metaphysical and cultural aspects (Dafermos, 2021). As a result, the potential for a more comprehensive understanding of multidimensional reality has not been fully realized.

This study presents an innovative approach through a Systematic Literature Review (SLR) and bibliometric analysis of international scientific publications in the last five years (Alsadi et al., 2025). By combining descriptive qualitative methods with thematic analysis, this study not only maps the trends and developments in the topic of "parallel worlds" in metaphysics but also reveals how modern physical theories, such as relativity, space-time dimensions, quantum mechanics, and thermodynamics, relate to metaphysical views and cultural traditions. The main objectives of this study are to analyze research trends on the concept of parallel worlds in metaphysical studies over the last five years. Identify the relationship between metaphysical concepts and modern physical theories. Describe the integration between scientific, philosophical, and cultural perspectives in understanding the concept of multidimensional reality. Demonstrate that metaphysics can be studied scientifically through an interdisciplinary approach that connects philosophy and science.

RESEARCH METHOD

This research used a quantitative descriptive approach, a type of research that systematically and measurably describes or explains a phenomenon using numerical data (Duckett, 2021; Ghanad, 2023). The research focuses on data-driven findings and analysis of phenomena. Scopus database mapping was used to identify research trends and foci in the international literature (Borgohain et al., 2022). Searches were conducted across sources, document counts, trends, and relationships among keywords, focusing on research topics related to parallel dimensions in physics and their connections to modern physics.

Through a process consisting of analyzing, mapping, and evaluating scientific developments based on scientific publication data, such as journal articles, proceedings, or books. The bibliometric approach emphasizes quantitative analysis of bibliographic data, such as publication counts, citation rates, author collaborations, dominant keywords, and research topic trends (Kumar et al., 2022). Through this analysis, researchers can map the direction of a discipline's development while formulating more targeted research strategies. Bibliometrics allows for the identification of emerging research areas, influential researchers and journals, and potential research gaps for further study (Hassan & Duarte, 2024). Thus, this approach plays a crucial role in developing scientific policies and research strategies that are focused, effective, and high-impact.

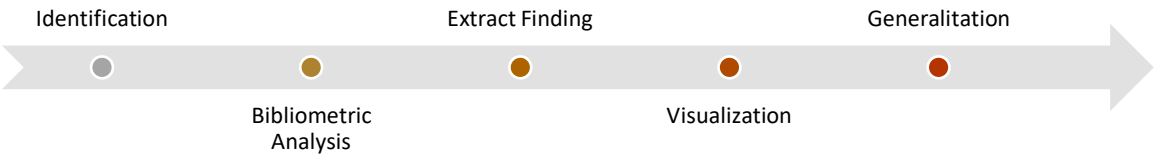

Figure 1. Research flowchart

The data analysis techniques in this study combine quantitative approaches to obtain a comprehensive understanding of the concept of parallel worlds. In the quantitative phase, a bibliometric analysis was conducted using data from the Scopus database with VOSviewer to map keyword networks, publication trends, citation patterns, and author collaborations, revealing the developmental direction and research focus of international studies on parallel worlds within metaphysical and physical frameworks. The following is the PRISMA design that was developed.

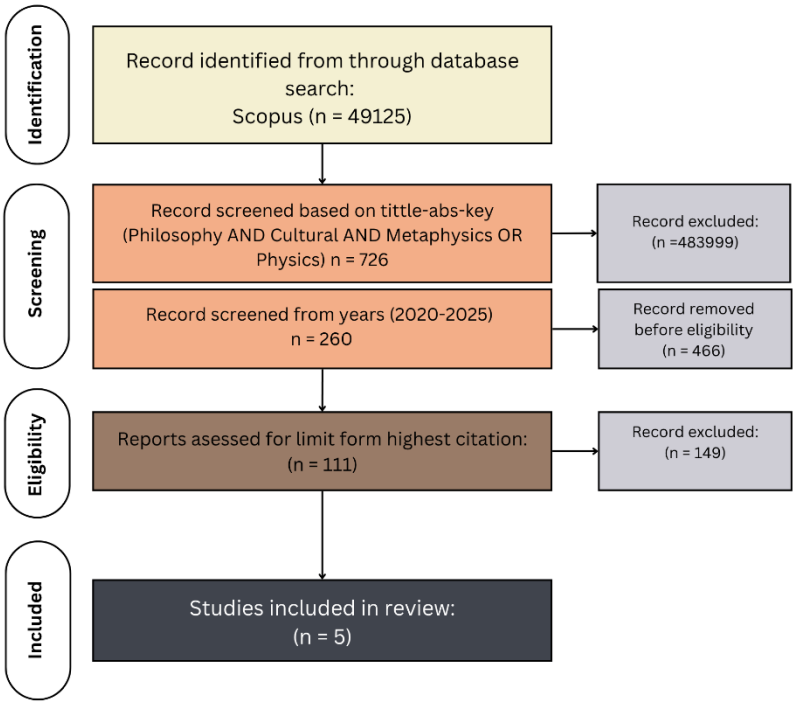

Figure 2. PRISMA model

In research on the concept of parallel universes, the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) approach serves as the basis for the literature selection and screening phase prior to the bibliometric analysis. Through the PRISMA stages, from identification, screening, eligibility, to inclusion, researchers ensure that the bibliographic data used comes from relevant and high-quality scientific sources (Agrawal et al., 2024). Following this systematic selection process, bibliometric analysis techniques are applied to map keyword networks, publication trends, citations, and author collaborations in studies of parallel universes in modern metaphysics and physics. This combination of PRISMA and bibliometrics enables analysis that is not only quantitative and measurable (Lintangesukmanjaya et al., 2025) but also strategically

directed in uncovering development patterns, conceptual interrelationships, and future research directions regarding parallel dimensions.

RESULTS AND DISCUSSION

Result

Preliminary research was conducted using bibliometric analysis targeting documents from the Scopus database over the past five years. The analysis used the keywords "Philosophy AND Cultural AND Metaphysics OR Physics." The results indicate a research trend in metaphysics related to the philosophical field. This study found that the highest number of documents was in 2024 (46) and the highest number of citations was in 2025 (88). However, no documents were published in October 2025.

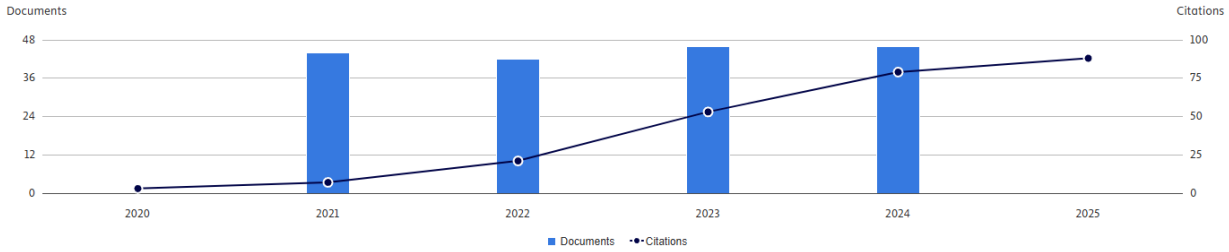

Figure 3. Increase in citations and documents per year (2020-2025)

Metaphysical studies of multidimensional/parallel dimensions were most frequently found in international literature, primarily in articles, totaling 152 documents. This amounts to 58.5% of the total number of other research sources. Meanwhile, subject areas showing this metaphysical trend, such as physics, culture, and philosophy, have a significant presence in the research area "Arts and Humanities," accounting for 52.4% of the total with 215 documents.

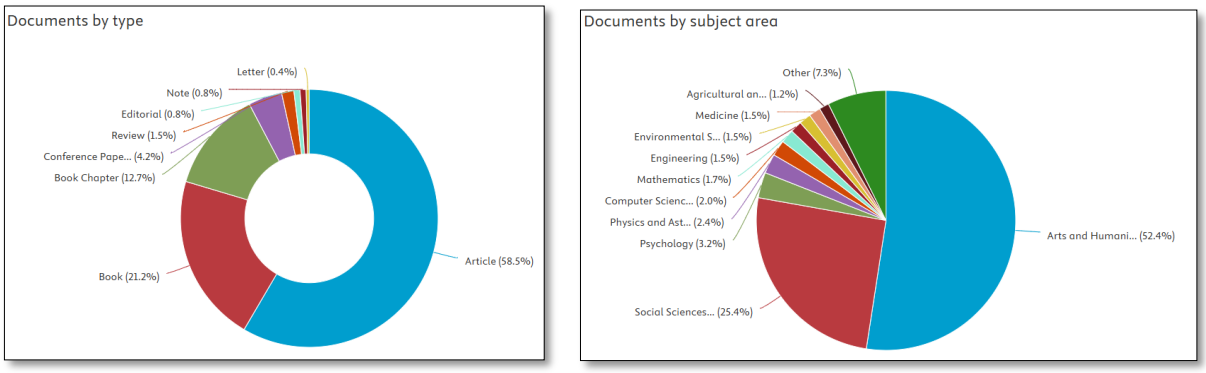

Figure 4. Number of document types and research areas

In addition to area and document type, the results of the Scopus data analysis for the 2020-2025 period show the distribution of countries by the number of documents each country has. The country with the most documents is the United States, with 34 discussing metaphysics and parallel dimensions. The tendency of countries to publish numerous works in metaphysics demonstrates the influence of studies in culture,

philosophy, and belief, which they can integrate into their scientific work. The following is a distribution of the 15 countries with the most significant number of documents in the Scopus database.

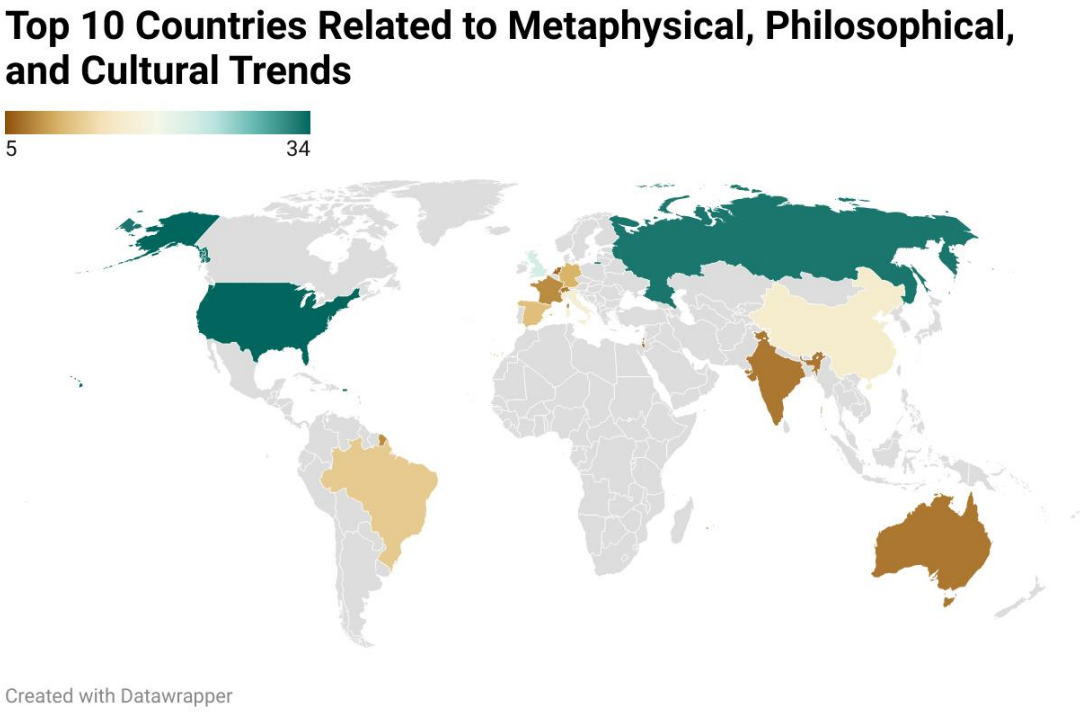

Figure 5. TOP 15 Countries related to metaphysical, philosophical and cultural trends

In the analysis of bibliometric results using VOS-Viewer, the relationship between each keyword that has a relationship and connection to each other is obtained.

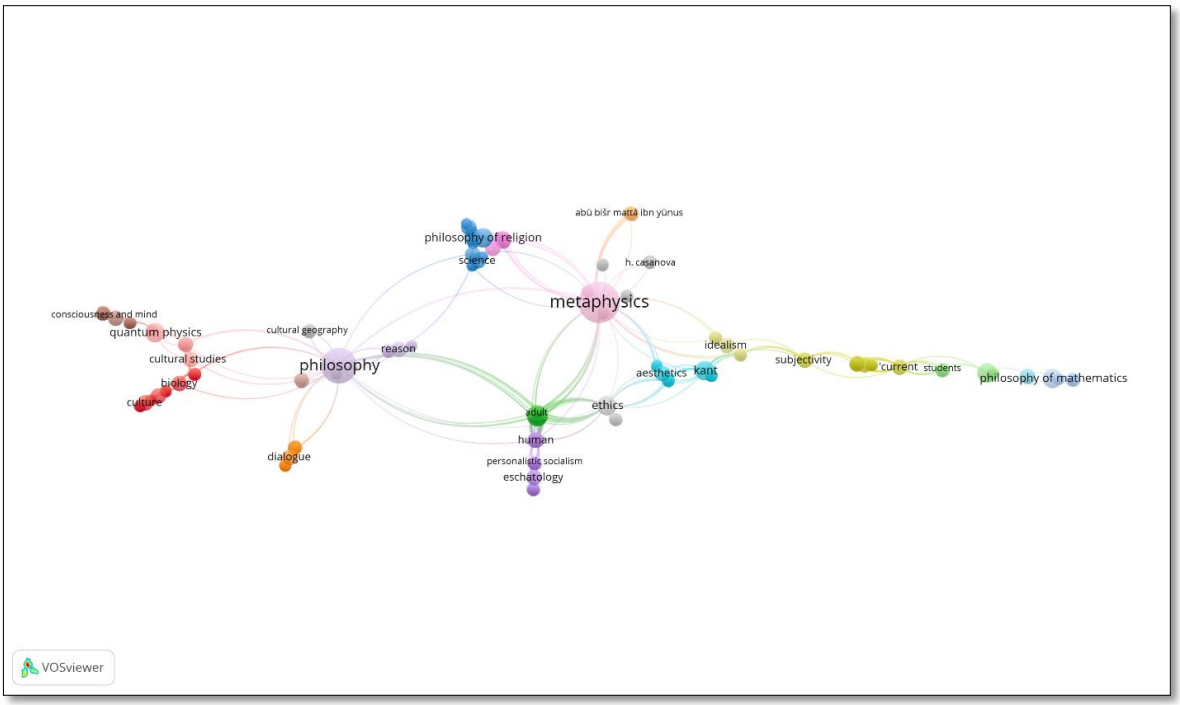

Figure 6. Keyword overview

The bibliometric map shows that metaphysics serves as a center of gravity, connecting various other studies, ranging from ethics, aesthetics, and philosophy of religion to philosophy of mathematics and Kantian idealism, to more empirical domains such as biology, cultural studies, and quantum physics. This connection illustrates that metaphysics functions as a conceptual framework that bridges fundamental questions about reality, existence, and cause and effect with other, more specific disciplines (Singh et al., 2024). A unique finding from this connection pattern is the emergence of interdisciplinary influences: metaphysics not only influences the realm of pure philosophy but also triggers new ways of understanding consciousness (through quantum physics), morality (through ethics), subjectivity (through idealism), and the structure of formal knowledge (through the philosophy of mathematics). Thus, metaphysics serves as a "center of conceptual dialogue" that produces a more holistic and innovative understanding of human phenomena, scientific reality, and the structure of modern knowledge. The differences in scope between physics and metaphysics are pretty profound.

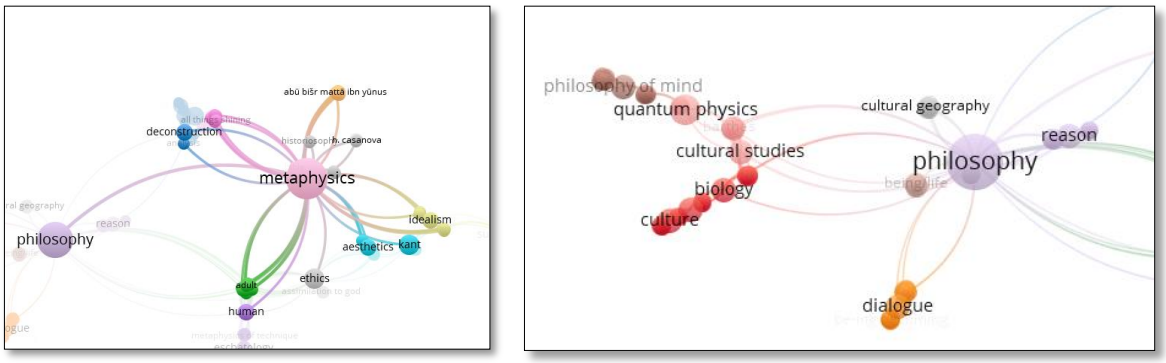

Figure 7. Metaphysics and Physics

The figure shows that "philosophy" is directly connected to cultural studies, culture, biology, quantum physics, and the philosophy of mind, demonstrating that philosophy serves as a reflective foundation for understanding both social and physical reality. The connection with cultural studies reflects how philosophy helps interpret the meanings, values, and social constructs that shape human identity and understanding of the world. Meanwhile, the connection with physics, particularly quantum physics and the philosophy of mind, indicates that philosophy provides a conceptual framework for questioning the nature of matter, consciousness, and the relationship between observers and natural phenomena (Ataeva, 2022). Thus, philosophy functions as a bridge: on the one hand, exploring cultural and social dynamics, and on the other, formulating ontological and epistemological questions about the fundamental structure of the universe.

From a philosophical perspective, physics focuses on phenomena that can be measured, observed, and empirically tested, while metaphysics examines what lies beyond these measurements: the nature of reality, existence, cause and effect, and the

most fundamental structure of being. The similarity between the two lies in their goal of profoundly understanding the world: physics explains how nature works through empirical laws. At the same time, metaphysics attempts to answer why those laws exist and what their ontological basis is. The difference lies in their approach: physics is experimental and quantitative, while metaphysics is conceptual and speculative. However, the two influence each other; discoveries in quantum physics, for example, raise new metaphysical questions about reality, determinism, and the role of consciousness, so their relationship is dialogical and mutually expands the boundaries of knowledge.

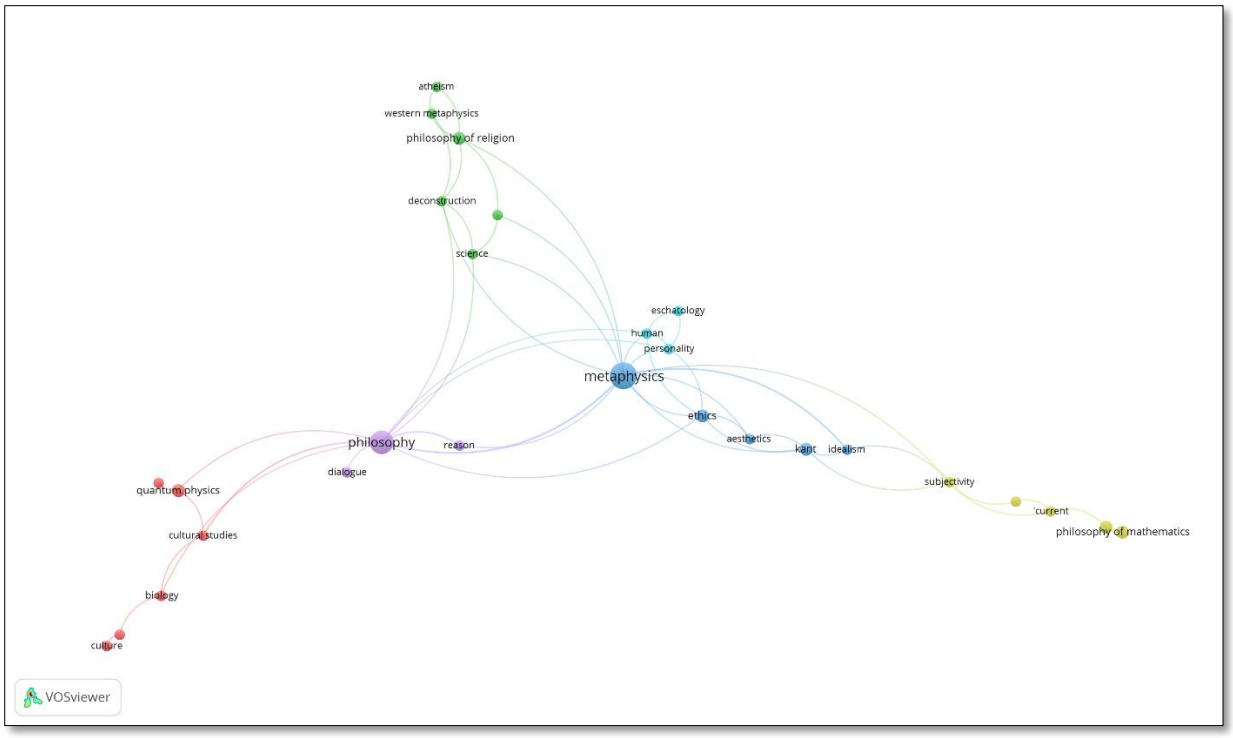

Figure 8. Metaphysics in cultural and philosophical perspective

Metaphysics can be linked to cultural acculturation and science, as the three interact in understanding reality from different yet complementary perspectives. Metaphysics provides a conceptual framework for questioning the nature of existence, cause and effect, space, time, and meaning—questions that naturally arise in both culture and science (Arenhart & Arroyo, 2021; Joshi et al., 2023). In the context of cultural acculturation, metaphysics helps explain how a society constructs a worldview, beliefs about the universe, and values that shape collective identity. For example, the concepts of "harmony," "soul," or "natural forces" in certain traditions are forms of metaphysics that are embedded in culture. On the other hand, science, particularly modern physics such as relativity and quantum mechanics, also raises metaphysical questions about reality, determinism, consciousness, and the deepest structure of nature (Ergi, 2024). When cultural acculturation, scientific discovery, and metaphysical reflection intersect, a richer understanding emerges of how humans interpret the world, how cultural

frameworks of meaning shape scientific knowledge, and how more fundamental philosophical questions are addressed. How metaphysics explains the concept of parallel worlds is highlighted in particular by linking it to scientific technology and cultural acculturation.

The diagram shows that the concept of Multiverse/Parallel Worlds is not only a scientific issue, but also crosses various dimensions of knowledge: starting from physics and science such as quantum theory, inflationary cosmology, M-Theory, to information simulations that try to explain the basic structure of reality; then philosophy, which studies the multiverse through Eastern traditions and local existentialism to understand the meaning of existence; and metaphysics, which views reality as a spectrum, places consciousness as a bridge between dimensions, and uses a non-dualistic paradigm to explain the connectedness of all existence. Other literature explains that the multiverse has also entered popular culture, including film, literature, games, and virtual reality, which present the imagination of parallel worlds in narrative and aesthetic forms (Thomann, 2024). Thus, the multiverse becomes an interdisciplinary theme that connects science, philosophy, metaphysics, and culture to understand the possibility of a layered structure of reality (Biswas & Mukhopadhaya, 2025).

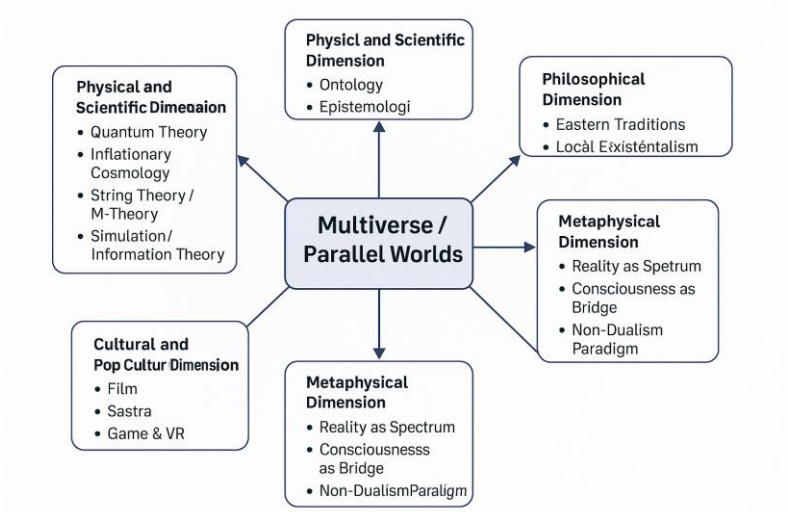

Figure 9. Multidimensionality and parallel dimensions in the scope of mathematical physics studies

Discussion

Bibliometric analysis shows a significant increase in publications on parallel universes over the past five years. This trend indicates a paradigm shift, in which metaphysics is no longer considered a purely speculative discipline but rather a field capable of scientific dialogue with modern physics and cosmology. Most research addresses this topic within the context of existential philosophy, consciousness, and the ontological implications of space-time and multiverse theories. Thematic studies indicate a meeting point between metaphysics and physics in the fundamental concepts of existence and dimensionality (Mageed, 2025). Einstein's theory of relativity explains how space and time are

interconnected within a four-dimensional continuum, while quantum mechanics opens up the possibility of parallel realities through the principles of superposition and uncertainty (Aerts & Bianchi, 2024). Within a metaphysical framework, these phenomena are interpreted as evidence of nonmaterial dimensions that influence physical reality.

Many studies link the concept of parallel worlds to local wisdom and spiritual traditions from various cultures. For example, in Eastern philosophy, there is the concept of lokantara (another world) or planes of existence, which bears similarities to the idea of the multiverse in modern physics. This integration of traditional wisdom and scientific theory demonstrates a universal unity in how humans understand reality and consciousness. Several recent studies also highlight the role of thermodynamic principles, particularly the concept of entropy, as a bridge between the physical and nonphysical worlds (Schön, 2025). Human consciousness is viewed as an open system interacting with a higher-dimensional environment of energy and information. This perspective broadens the understanding that metaphysics not only addresses abstract realities but also has a scientific basis, grounded in the laws of physics. This also forms the basis for the metaphysical approach to discussing the concept of parallel worlds.

Its impact on research is significant because the concept of multidimensionality or parallel worlds has encouraged the development of interdisciplinary approaches that connect theoretical physics, cosmology, the philosophy of science, and cultural studies. In science, the idea of the multiverse has driven the development of new mathematical models, cosmological simulations, and even the exploration of the boundaries of quantum theory and relativity (Read & Bihan, 2021). Philosophically, this concept challenges fundamental assumptions about reality, existence, and the relationship between observers and the universe. In the cultural realm, the multiverse has become a space for creative exploration, influencing fictional narratives, game design, and the development of VR/AR technology. The multiverse can also be linked to scientific phenomena.

Empirical testing of parallel universes is complicated due to their nature, which lies beyond the reach of direct observation. However, modern physics allows for scientific study through indirect inference, such as cosmic microwave background (CMB) radiation patterns, gravitational anomalies, mathematical predictions of M-Theory, or quantum experiments demonstrating the "many-worlds interpretation" phenomenon (Sochi, 2024). Therefore, even though direct verification is not yet possible, research on the multiverse remains scientifically valid as long as it is based on a theoretical model that is consistent, predictable, and open to testing with cosmological data or future physics experiments. These findings indicate that the study of parallel universes cannot be separated from an interdisciplinary approach. The practical implication is the need to develop a new epistemological framework that combines empirical scientific methods with philosophical reflection. In the future, collaboration between physicists, philosophers, and anthropologists can enrich our understanding of multidimensional reality and confirm the scientific relevance of metaphysics in the 21st-century context.

CONCLUSION

Fundamental Finding: Bibliometric analysis shows a significant increase in publications on parallel worlds over the past five years. A total of 111 documents were found, with the highest number of citations in 2024 (46) and 2025 (88). This trend indicates a paradigm shift, in which metaphysics is no longer considered a purely speculative discipline but rather a field capable of scientific dialogue with modern physics and cosmology. **Implication:** The concept of the Multiverse/Parallel Worlds is discussed not only in physics, from quantum theory and inflationary cosmology to M-Theory, but also in philosophy and metaphysics, which interpret reality as a spectrum of interconnectedness, with consciousness as a bridge between dimensions. Cross-disciplinary, this idea helps understand the meaning of existence and the fundamental structure of multidisciplinary reality, intersecting physics and metaphysics. **Limitation:** The coverage of parallel dimension primary sources is very minimal, so that cultural and cultural analysis is not obtained optimally. **Future Research:** In the future, further analysis can be obtained regarding parallel dimensions with wave matter and physical phenomena of quantum theory.

AUTHOR CONTRIBUTIONS

Rahmatta Thoriq Lintangesukmanjaya contributed to the conceptual framework, research design, and validation process; **Dwikoranto** was involved in methodology development, data analysis, sourcing references, and drafting the manuscript; **Ilmiawan Hakim** handled data management, project coordination, and manuscript drafting. All listed authors have reviewed and approved the final version of this submission.

CONFLICT OF INTEREST STATEMENT

The authors confirm that there are no conflicts of interest, either financial or personal, that may have influenced the content or outcome of this study.

ETHICAL COMPLIANCE STATEMENT

This manuscript complies with research and publication ethics. The authors affirm that the work is original, conducted with academic integrity, and free from any unethical practices, including plagiarism.

STATEMENT ON THE USE OF AI OR DIGITAL TOOLS IN WRITING

The authors acknowledge the use of digital tools, including AI-based technologies, as support in the research and writing stages of this article. Specifically, Grammerly was employed for digital assistance were critically evaluated and revised to ensure academic rigor and ethical standards were upheld. The final responsibility for the manuscript rests entirely with the authors.

REFERENCES

Aerts, D., & De Bianchi, M. S. (2024). A quantum mechanical analysis of time and motion in relativity theory. *Theoria: An International Journal for Theory, History and Foundations of Science*, *39*(2), 165-191.

Agrawal, S., Oza, P., Kakkar, R., Tanwar, S., Jetani, V., Undhad, J., & Singh, A. (2024). Analysis and recommendation system-based on PRISMA checklist to write systematic review. *Assessing Writing*, *61*, 100866. https://doi.org/10.1016/j.asw.2024.100866

Alsadi, J., Alkhatib, F., Antony, J., Garza-Reyes, J. A., Tortorella, G., & Cudney, E. A. (2025). A systematic literature review with bibliometric analysis of Quality 4.0. *The TQM Journal*, *37*(5), 1446-1470. https://doi.org/10.1108/TQM-02-2024-0050

Arenhart, J. R. B., & Arroyo, R. W. (2021). On physics, metaphysics, and metametaphysics. *Metaphilosophy*, *52*(2), 175-199. https://doi.org/10.1111/meta.12486

Ataeva, N. (2022). Teaching natural sciences through the prism of philosophy: An attempt to define the relationship. *Futurity Philosophy*, *1*(4), 15-28. https://doi.org/10.57125/FP.2022.12.30.02

Biswas, M. A., & Mukhopadhaya, M. S. (2025). The vedic nexus: Sci-Fi psychological journey from ancient wisdom. *International Journal of Indian Psychology*, *13*(2). https://www.ijip.in/

Borgohain, D. J., Bhanage, D. A., Verma, M. K., & Pawar, A. V. (2022). Global research trends in augmented reality: Scientometric mapping based on Scopus database. *Information Discovery and Delivery*, *50*(4), 387-403. https://doi.org/10.1108/IDD-08-2021-0081

Dafermos, M. (2021). The metaphysics of psychology and a dialectical perspective. *Theory & Psychology*, *31*(3), 355-374. https://doi.org/10.1177/0959354320975491

Ding, J., Zhang, Y., Shang, Y., Zhang, Y., Zong, Z., Feng, J., ... & Li, Y. (2025). Understanding world or predicting future? A comprehensive survey of world models. *ACM Computing Surveys*, *58*(3), 1-38. https://doi.org/10.1145/3746449

Disia, P. (2024). On the concepts of time, space, vacuum and domain of investigation among contemporary physics, philosophy and theological reflection. *Journal of Philosophical Theological Research*, *26*(1), 47-66.

Duckett, L. J. (2021). Quantitative research excellence: Study design and reliable and valid measurement of variables. *Journal of Human Lactation*, *37*(3), 456-463. https://doi.org/10.1177/08903344211019285

Ghanad, A. (2023). An overview of quantitative research methods. *International journal of multidisciplinary research and analysis*, *6*(08), 3794-3803. https://doi.org/10.47191/ijmra/v6-i8-52

Hassan, W., & Duarte, A. E. (2024). Bibliometric analysis: A few suggestions. *Current problems in cardiology*, *49*(8), 102640. https://doi.org/10.1016/j.cpcardiol.2024.102640

Joshi, A., Roy, S., Manik, R. K., & Sahoo, S. K. (2023). Scientific philosophy: Exploring existential, metaphysical, and ethical research philosophy behind the question. *Journal of Pharmaceutical Negative Results*, *14*(3). DOI: 10.47750/pnr.2023.14.03.215

Kumar, M., George, R. J., & PS, A. (2023). Bibliometric analysis for medical research. *Indian Journal of Psychological Medicine*, *45*(3), 277-282. https://doi.org/10.1177/02537176221103617

Lintangesukmanjaya, R. T., Prahani, B. K., & Bergsma, L. N. (2025). Oriented study of virtual simulation to improve critical thinking skill in physics learning with inquiry model: Bibliometric analysis. *Journal of Law and Bibliometrics Studies*, *1*(1), 43-43. https://doi.org/10.63230/jolabis.1.1.43

Mageed, I. A. (2025). Modern teleological arguments for Allah's Existence: Fractal and differential metaphors. *Zenodo Preprints*.

Norman, N. A., & Al Walid, K. (2025). The convergence of quantum science and the islamic concept of the Soul: Exploring metaphysical realities. *Journal of Contemporary Studies on Religion and Science (JCSRS)*, (1).

Ohno, M. (2021). *Composing with Matter: Interdisciplinary Explorations between the Natural and the Artificial* (Doctoral dissertation, Goldsmiths, University of London).

Read, J., & Le Bihan, B. (2021). The landscape and the multiverse: What's the problem? *Synthese*, *199*(3), 7749-7771. https://doi.org/10.1007/s11229-021-03137-0

Schön, J. C. (2025). Finite-time thermodynamics and complex energy landscapes: A perspective. *Entropy*, *27*(8), 819. https://doi.org/10.3390/e27080819

Singh, K. (2024). The nature of reality: Exploring ontology and metaphysical perspectives. *International Journal of Social Science Research (IJSSR)*, *1*(4), 17-27.

Sochi, T. (2024). The epistemology of contemporary physics: Introduction. *arXiv preprint arXiv:2410.00040*.

***Rahmatta Thoriq Lintangesukmanjaya (Corresponding Author)**
Postgraduate Physics Education,
Universitas Negeri Surabaya
Jl. Ketintang, Ketintang, Kec. Gayungan, Surabaya, Jawa Timur 60231
24031635011@mhs.unesa.ac.id

Ilmiawan Hakim
Departement of History Education,
Universitas Negeri Surabaya
Jl. Ketintang, Ketintang, Kec. Gayungan, Surabaya, Jawa Timur 60231
ilmiawan.20071@mhs.unesa.ac.id

Dwikoranto
Postgraduate Physics Education,
Universitas Negeri Surabaya
Jl. Ketintang, Ketintang, Kec. Gayungan, Surabaya, Jawa Timur 60231
dwikoranto@unesa.ac.id