World Academy of Science, Engineering and Technology
International Journal of Computer and Information Engineering
Vol:18, No:03, 2024

Sunspot Cycles: Illuminating Humanity's Mysteries

Authors : Aghamusa Azizov

Abstract : This study investigates the correlation between solar activity and sentiment in news media coverage, using a large-scale dataset of solar activity since 1750 and over 15 million articles from "The New York Times" dating from 1851 onwards. Employing Pearson's correlation coefficient and multiple Natural Language Processing (NLP) tools—TextBlob, Vader, and DistillBERT—the research examines the extent to which fluctuations in solar phenomena are reflected in the sentiment of historical news narratives. The findings reveal that the correlation between solar activity and media sentiment is generally negligible, suggesting a weak influence of solar patterns on the portrayal of events in news media. Notably, a moderate positive correlation was observed between the sentiments derived from TextBlob and Vader, indicating consistency across NLP tools. The analysis provides insights into the historical impact of solar activity on human affairs and highlights the importance of using multiple analytical methods to understand complex relationships in large datasets. The study contributes to the broader understanding of how extraterrestrial factors may intersect with media-reported events and underlines the intricate nature of interdisciplinary research in the data science and historical domains.

Keywords : solar activity correlation, media sentiment analysis, natural language processing, historical event patterns
Conference Title : ICASDS 2024 : International Conference on Applied Statistics and Data Science
Conference Location : Istanbul, Türkiye
Conference Dates : March 11-12, 2024