

Resource Summary Report

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Kepler

RRID:SCR_005252

Type: Tool

Proper Citation

Kepler (RRID:SCR_005252)

Resource Information

URL: <https://kepler-project.org/>

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Description: Kepler is a software application for analyzing and modeling scientific data. Using Kepler's graphical interface and components, scientists with little background in computer science can create executable models, called scientific workflows, for flexibly accessing scientific data (streaming sensor data, medical and satellite images, simulation output, observational data, etc.) and executing complex analyses on this data. Kepler is developed by a cross-project collaboration led by the Kepler/CORE team. The software builds upon the mature Ptolemy II framework, developed at the University of California, Berkeley. Ptolemy II is a software framework designed for modeling, design, and simulation of concurrent, real-time, embedded systems. The Kepler Project is dedicated to furthering and supporting the capabilities, use, and awareness of the free and open source, scientific workflow application, Kepler. Kepler is designed to help scientists, analysts, and computer programmers create, execute, and share models and analyses across a broad range of scientific and engineering disciplines. Kepler can operate on data stored in a variety of formats, locally and over the internet, and is an effective environment for integrating disparate software components, such as merging R scripts with compiled C code, or facilitating remote, distributed execution of models. Using Kepler's graphical user interface, users simply select and then connect pertinent analytical components and data sources to create a scientific workflowan executable representation of the steps required to generate results. The Kepler software helps users share and reuse data, workflows, and components developed by the scientific community to address common needs. Kepler is a java-based application that is maintained for the Windows, OSX, and Linux operating systems. The Kepler Project supports the official code-base for Kepler development, as well as provides materials and mechanisms for learning how to use Kepler, sharing experiences with other workflow developers, reporting bugs, suggesting enhancements, etc. The Kepler Project Leadership Team works to assure the long-term technical and financial viability of Kepler by making strategic decisions on behalf of the Kepler user community, as well as providing an official and durable point-of-contact to articulate and represent the interests of the Kepler Project and the Kepler software

application. Details about how to get more involved with the Kepler Project can be found in the developer section of this website.

Abbreviations: Kepler

Synonyms: Kepler Project

Resource Type: workflow software, software resource, software application, data processing software

Keywords: software, workflow

Funding: NSF 0722079

Resource Name: Kepler

Resource ID: SCR_005252

Alternate IDs: nlx_144278

Record Creation Time: 20220129T080229+0000

Record Last Update: 20260731T042707+0000

Ratings and Alerts

No rating or validation information has been found for Kepler.

No alerts have been found for Kepler.

Data and Source Information

Source: [SciCrunch Registry](#)

Usage and Citation Metrics

We found 47 mentions in open access literature.

Listed below are recent publications. The full list is available at [PRECISE-TBI](#) .

Kite ES, et al. (2025) Carbonate formation and fluctuating habitability on Mars. Nature, 643(8070), 60.

Guang YJ, et al. (2025) Bearing fault diagnosis based on Kepler algorithm and attention mechanism. PloS one, 20(9), e0331128.

Zhang Z, et al. (2025) Determination Method of Optimal Decomposition Level of Discrete Wavelet Based on Joint Jarque-Bera Test and Combination Weighting Method. Entropy (Basel, Switzerland), 27(2).

Yang H, et al. (2025) An integrated IKOA-CNN-BiGRU-Attention framework with SHAP explainability for high-precision debris flow hazard prediction in the Nujiang river basin, China. *PloS one*, 20(6), e0326587.

Wang J, et al. (2025) Training a convolutional neural network for exoplanet classification with transit photometry data. *Scientific reports*, 15(1), 15408.

Gilbert GJ, et al. (2025) Planets larger than Neptune have elevated eccentricities. *Proceedings of the National Academy of Sciences of the United States of America*, 122(11), e2405295122.

Mikušáková W, et al. (2025) Impact of Depression, Fatigue, and Pain on Quality of Life in Slovak Multiple Sclerosis Patients. *Medical science monitor : international medical journal of experimental and clinical research*, 31, e947630.

Ibáñez Alcalá RJ, et al. (2025) A modular, adaptable, and accessible implant kit for chronic electrophysiological recordings in rats. *Cell reports methods*, 5(9), 101146.

Mirzaei NM, et al. (2024) MODELING EARLY-ONSET CANCER KINETICS TO STUDY CHANGES IN UNDERLYING RISK, DETECTION, AND IMPACT OF POPULATION SCREENING. *medRxiv : the preprint server for health sciences*.

Cory-Wright R, et al. (2024) Evolving scientific discovery by unifying data and background knowledge with AI Hilbert. *Nature communications*, 15(1), 5922.

Levison HF, et al. (2024) A contact binary satellite of the asteroid (152830) Dinkinesh. *Nature*, 629(8014), 1015.

Campo Bagatin A, et al. (2024) Recent collisional history of (65803) Didymos. *Nature communications*, 15(1), 3714.

Pastukh A, et al. (2024) Exploring Interference Issues in the Case of n25 Band Implementation for 5G/LTE Direct-to-Device NTN Services. *Sensors (Basel, Switzerland)*, 24(4).

Lam JH, et al. (2024) Scalable computation of anisotropic vibrations for large macromolecular assemblies. *Nature communications*, 15(1), 3479.

Volvach A, et al. (2024) Electromagnetic and gravitational radiation of blazar OJ 287. *iScience*, 27(4), 109427.

Carpinella I, et al. (2024) Walk Longer! Using Wearable Inertial Sensors to Uncover Which Gait Aspects Should Be Treated to Increase Walking Endurance in People with Multiple Sclerosis. *Sensors (Basel, Switzerland)*, 24(22).

Santamaria Amato L, et al. (2023) Testing the speed of "spooky action at a distance" in a tabletop experiment. *Scientific reports*, 13(1), 8201.

Daly RT, et al. (2023) Successful kinetic impact into an asteroid for planetary defence. *Nature*, 616(7957), 443.

Cornelio C, et al. (2023) Combining data and theory for derivable scientific discovery with AI-Descartes. *Nature communications*, 14(1), 1777.

Poruthoor AJ, et al. (2023) Understanding the Free Energy Landscape of Phase Separation in Lipid Bilayers using Molecular Dynamics. bioRxiv : the preprint server for biology.