

DOE CODE

Software Services Platform and Search Tool

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DOE CODE Product Manager



U.S. DEPARTMENT OF
ENERGY

Office of
Science

Office of Scientific and
Technical Information

DOE CODE



What is DOE CODE?

- DOE CODE is the software services platform and search tool for DOE-funded code; replaces the Energy Science and Technology Software Center (ESTSC)
- Deployed in Nov. 2017, contains 4600+ software projects
- Provides functionality for collaboration, archiving, DOI registration, API submissions, and discovery
- Supports submission and announcement of:
 - Unclassified/Unlimited availability software
 - Limited availability software
 - Scientific and Business software

Software Submission

What software is eligible for submission?

- Software that was developed or modified by DOE labs, DOE facilities and DOE contractors or during work carried out for others at DOE facilities
- Software that meets the formal definition of scientific and technical information (STI) based on DOE Order 241.1B

Who submits software to DOE CODE?

- DOE Lab/Site software POCs
- Individual DOE-funded developers

Two Submission Paths:

 Submit: For code in early development and for developers wanting to obtain a DOI early in the process

 Announce: For code in later stages of development – ensures announcement in accordance with DOE statutory responsibilities

*Limited software may be Announced only

Metadata Requirements

Submit



- Project Type
- Repository URL, Landing Page, or Contact Email
- Software Title
- Description/Abstract
- License Information
- Developers

Announce



- Project Type
- Repository URL, Landing Page, or Contact Email
- Software Title
- Description/Abstract
- License Information
- Developers
- Release Date
- Source Code Upload
- Sponsoring Organization
- Primary Award Number
- Research Organization
- Contact Information

*All software submitted or announced undergoes an Approval step before it becomes discoverable in our output products.

Repository Services

- DOE CODE provides repository hosting services via GitHub and GitLab for Unlimited availability software funded by DOE
 - GitHub – typical Open Source project functionality
 - GitLab – Open or Closed Source repositories, providing more control of the code

The screenshot shows the DOE CODE website's 'Repository Services' page. The header includes the DOE CODE logo, the U.S. Department of Energy Office of Scientific and Technical Information, and a search bar. The navigation menu contains links for 'Submit Software/Code', 'Repository Services', 'About', 'Software Policy', 'News/Resources', and 'FAQs'. The main content area is titled 'Repository Services' and offers two options for creating a new project: one on the open source GitHub community and another on the internal DOE CODE repository where access can be controlled. Below these options are the GitHub and GitLab logos. At the bottom, there is a note about requesting to join the DOE CODE GitHub community and a contact email for repository services.

DOE CODE U.S. Department of Energy Office of Scientific and Technical Information Search DOE CODE for submitted software entries

Submit Software/Code Repository Services About Software Policy News/Resources FAQs

Repository Services

Create a new project on our open source GitHub community:

Create a new project on our internal DOE CODE repository where you can control access to the project.

GitHub OR GitLab

If you are interested in making use of the GitHub or GitLab repository services and would like to request to join the DOE CODE GitHub community, please fill out the request form. For any questions about the repository services, contact doecoderepositories@osti.gov.

DOI Assignment

- DOI assignment is for Unlimited availability software only
- Easy to reserve
- Option to include a custom DOI Infix
- Release Date required to complete DOI registration with DataCite

DOI and Release Date

DOI (Optional Field) ?

 ✓

Please Note: Your reserved DOI will not be registered on DataCite until a Release Date is provided.

[Clear Reserved DOI](#)

DOI Infix (Optional Field) ?

Project Discovery

DOE CODE

- Unlimited availability software - submitted and announced projects
- Offers specialized software searching and filtering capabilities

OSTI.GOV

- Unlimited availability software - announced projects only



- Limited availability software
- Specifically designed for DOE community who must have SRC account to access metadata record

geothermalLosr (Energy Predictor for Geothermal Open Source Reservoir)

Full Project

RESOURCE

Publicly Accessible Repository 
https://github.com/NREL/geothermal_osr

<https://doi.org/10.11578/dc.20220324.1>

SAVE / SHARE

Export Metadata 



Abstract

This is a repository with the tools developed for predicting energy produced at Open-Source Reservoir (OSR). It includes both simulation data for OSR, as well as Jupyter notebooks for training and evaluating prediction models. OSR was constructed based on the data from Brady Hot Springs reservoir (Nevada, USA) but has a number of sufficiently modified characteristics and does not disclose any sensitive data.

Developers: [Duplyakin, Dmitry](#) ^[1]; [Beckers, Koenraad](#) ^[1]; [Martin, Michael](#) ^[1]; [Johnston, Henry](#) ^[1]; [Siler, Drew](#) ^[2]

[+ Show Developer Affiliations](#)

Release Date: 2022-01-13

Project Type: Open Source, Publicly Available Repository

Software Type: Scientific

Programming Languages: JUPYTER NOTEBOOK

Licenses: BSD 3-clause "New" or "Revised" License

Sponsoring Org.: USDOE Office of Energy Efficiency and Renewable Energy (EERE), Renewable Power Office, Geothermal Technologies Office

Primary Award/Contract Number: AC36-08G028308

Code ID: 71965

Site Accession Number: NREL SWR-22-23

Research Org.: National Renewable Energy Laboratory (NREL), Golden, CO (United States)
U.S. Geological Survey

Country of Origin: United States

Citation Formats

[MLA](#) [APA](#) [Chicago](#) [BibTeX](#)

Duplyakin, Dmitry, Beckers, Koenraad, Martin, Michael, Johnston, Henry, and Siler, Drew. *geothermal_osr (Energy Predictor for Geothermal Open Source Reservoir)*. Computer Software. https://github.com/NREL/geothermal_osr. USDOE Office of Energy Efficiency and Renewable Energy (EERE), Renewable Power Office. Geothermal Technologies Office. 13 Jan. 2022. Web. doi:10.11578/dc.20220324.1.

DOE CODE

U.S. Department of Energy
Office of Scientific and Technical Information

Search DOE CODE for submitted software entries



Submit Software/Code



Repository Services



Software Policy



Resources



About



FAQs



News

Search DOE CODE for submitted software entries

Advanced Search Options

Software Title:

Developers / Contributors:

DOI:

Identifier Numbers:

Release Date:

 to

[Less Options...](#)

Project Type:

Licenses:

Programming Languages:

Research Organization:

Sponsoring Organization:

Software Type:

Sort:

Search

Search Results and Options

- Can refine results by:
 - Project Type
 - License
 - Release Date
 - Research Organization
 - Software Type (Business or Scientific)
- Export results as JSON or CSV file.

4616 Search Results

SEARCH FOR: All Projects

REFINE BY:

PROJECT TYPE

- Open Source, Publicly Available Repository
- Open Source, No Publicly Available Repository
- Closed Source

LICENSES

- Other (Commercial or Open-Source)
- Apache License 2.0
- GNU General Public License v3.0
- MIT License
- BSD 2-clause "Simplified" License
- BSD 3-clause "New" or "Revised" License
- Eclipse Public License 1.0
- GNU Affero General Public License v3.0
- GNU General Public License v2.0
- GNU General Public License v2.1
- GNU Lesser General Public License v2.1
- GNU Lesser General Public License v3.0
- Mozilla Public License 2.0
- The Unlicense

SOFTWARE TYPE

- Business
- Scientific

RELEASE DATE

RESEARCH ORGANIZATION

- Lawrence Berkeley National Laboratory (LBNL), Berkeley, CA (United States) (443)
- Sandia National Laboratories (SNL-NM), Albuquerque, NM (United States) (389)

Export Search Results ▾ Sort by Relevance ▾

Prev ... Next

- ### 1. Greenhouse gases, Regulated Emissions, and Energy use in Technologies Model ® (2022 .Net)

Wang, Michael ; Elgowainy, Amgad ; Lu, Zifeng ... Release Date: 2022-10-10

To fully evaluate energy and emission impacts of advanced vehicle technologies and new transportation fuels, the fuel cycle from wells to wheels and the vehicle cycle through material recovery and vehicle disposal need to be considered. Sponsored by the U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy (EERE), Argonne has developed a full life-cycle model called GREET (Greenhouse gases, Regulated Emissions, and Energy use in Technologies). It allows researchers and analysts to evaluate various vehicle and fuel combinations on a full fuel-cycle/vehicle-cycle basis. The first version of GREET was released in 1996. Since then, Argonne has continued [More>>](#)

<https://doi.org/10.11578/GREET-Net-2022/dc.20220908.2> | [Landing Page](#)
- ### 2. Greenhouse gases, Regulated Emissions, and Energy use in Technologies Model ® (2022 Excel)

Wang, Michael ; Elgowainy, Amgad ; Lee, Uisung ... Release Date: 2022-10-10

To fully evaluate energy and emission impacts of advanced vehicle technologies and new transportation fuels, the fuel cycle from wells to wheels and the vehicle cycle through material recovery and vehicle disposal need to be considered. Sponsored by the U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy (EERE), Argonne has developed a full life-cycle model called GREET (Greenhouse gases, Regulated Emissions, and Energy use in Technologies). It allows researchers and analysts to evaluate various vehicle and fuel combinations on a full fuel-cycle/vehicle-cycle basis. The first version of GREET was released in 1996. Since then, Argonne has continued [More>>](#)

<https://doi.org/10.11578/GREET-Excel-2022/dc.20220908.1> | [Landing Page](#)
- ### 3. CabanaPD

Reeve, Sam ; Seleson, Pablo Release Date: 2022-09-16

CabanaPD is a meshfree peridynamics application built with Cabana and Kokkos. Kokkos enables performance portability across hardware architectures and Cabana provides particle capabilities including multi-node MPI support. The main components of CabanaPD are particle initialization, neighbor list generation, force and energy computation, time integration, and multi-node particle communication. In addition, options for creating pre-cracked regions and particle boundary conditions are available. CabanaPD currently enables two common force models: prototype microelastic brittle (PMB) and linear peridynamic solid (LPS). For both of these models, versions with and without fracture as well as linearized model options are available. CabanaPD is designed to be [More>>](#)

<https://doi.org/10.5281/zenodo.7087781> | [Repository URL](#)

Versioning and Tagged Releases

- DOE CODE offers the option to create a record that is a newer or previous version of any DOE CODE record has already submitted or announced.
- Once a "New" or "Prev" record has been submitted or announced, DOE CODE will automatically add metadata to all newer/previous records to reflect the appropriate relationship using the DOI Related Identifier fields.
- DOE CODE allows for submitting a tagged release of software hosted in GitHub as an individual record and obtain a separate DOI for the release.
 - Example:
<https://github.com/doecode/server/releases/tag/v2.0.1>

DOE CODE / Search Results / Greenhouse gases, Regulated Emissions, and Energy use in Technologies Model © (2022 .Net)

Greenhouse gases, Regulated Emissions, and Energy use in Technologies Model © (2022 .Net)

Full Project

RESOURCE

Project Landing Page
<https://greet.es.anl.gov/index.php?content=greetdotnet>

<https://doi.org/10.11578/GREET-Net-2022/dc.20220908.2>

Previous Version
<https://doi.org/10.11578/GREET-Net-2021/dc.20210903.1>

Documentation
<https://greet.es.anl.gov/publications>

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Abstract

To fully evaluate energy and emission impacts of advanced vehicle technologies and new transportation fuels, the fuel cycle from wells to wheels and the vehicle cycle through material recovery and vehicle disposal need to be considered. Sponsored by the U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy (EERE), Argonne has developed a full life-cycle model called GREET (Greenhouse gases, Regulated Emissions, and Energy use in Technologies). It allows researchers and analysts to evaluate various vehicle and fuel combinations on a full fuel-cycle/vehicle-cycle basis. The first version of GREET was released in 1996. Since then, Argonne has continued to update and expand the model. GREET.Net provides the user with an easy to use and fully graphical toolbox to perform life cycle analysis simulations of alternative transportation fuels and vehicle technologies in a matter of a few clicks. It provides a comprehensive, life-cycle-based approach to compare the energy use and emissions of conventional and advanced vehicle technologies. The tool includes the data of both fuel-cycle (fuel production and vehicle operation) and vehicle-cycle (vehicle material recovery and production, vehicle component fabrication, vehicle assembly, and vehicle disposal/recycling). This public domain model is available free of charge for anyone to use.

Developers:

Wang, Michael ^[1]; Elgowainy, Amgad ^[1]; Lu, Zifeng ^[1]; Baek, Kwang ^[1]; Bafana, Adarah ^[1]; Benavides, Pahola ^[1]; Burnham, Andrew ^[1]; Cai, Hao ^[1]; Cappello, Vincenzo ^[1]; Chen, Peter ^[1]; Gan, Yu ^[1]; Gracida-Alvarez, Ulises ^[1]; Hawkins, Troy ^[1]; Iyer, Rakesh ^[1]; Kelly, Jarod ^[1]; Kim, Taemin ^[1]; Kumar, Shishir ^[1]; Kwon, Hoyoung ^[1]; Lee, Kyuhg ^[1]; Lee, Ulsung ^[1]; Liang, Chao ^[1]; Liu, Xinyu ^[1]; Ng, Clarence ^[1]; Ou, Longwen ^[1]; Reddi, Kriehna ^[1]; Siddique, Nazib ^[1]; Sun, Pingping ^[1]; Vyawahare, Pradeep ^[1]; Xu, Hui ^[1]

- Hide Developer Affiliations

1. Systems Assessment Center, Energy Systems and Infrastructure Analysis Division, Argonne National Laboratory

Release Date: 2022-10-10

Project Type: Closed Source

Software Type: Scientific

Programming Languages: C#

Version: Net 2022 (v1.3.0.13xxx)

Licenses: Other (Commercial or Open-Source): <https://greet.es.anl.gov/copyright>

Sponsoring Org.: USDOE Office of Energy Efficiency and Renewable Energy (EERE)

Primary Award/Contract Number: AC02-06CH11357

Code ID: 81029

Research Org.: Argonne National Laboratory (ANL), Argonne, IL (United States)

Contributors

Contributors [Contributing Organizations](#)

Contributors [?](#)

To edit data, click on the row containing the information to modify.

Show **10** entries Search:

First Name	Last Name	Contributor Type
No data available in table		

Showing 0 to 0 of 0 entries [Previous](#) [Next](#)

[Add Contributor](#)

Enter Contributor [>](#)

* First Name (Required Field)

Middle Name (Optional Field)

* Last Name (Required Field)

Email (Optional Field)

ORCID (Optional Field)

Affiliations (Optional Field)

Select your Options

* Contributor Type (Required Field) [?](#)

[Close](#) [Save and Close](#)

MEASUR - Manufacturing Energy Assessment Software for Utility Reduction

Full Project

RESOURCE

Publicly Accessible Repository [?](#)

<https://github.com/ORNL-AMO/AMO-Tools-Desktop>

<https://doi.org/10.11578/dc.20220107.3>

Documentation

<https://ornl-amo.github.io/docs/html/index.html>

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Export Metadata [v](#)



Abstract

MEASUR your energy savings with the free DOE MEASUR software The Department of Energy (DOE), with Oak Ridge National Laboratory (ORNL), released version 1.0 of their energy efficiency software tool MEASUR (Manufacturing Energy Assessment Software for Utility Reduction). MEASUR has been available for several years as a beta version, being tested by industry experts and real users, and will continue to be updated and improved in the coming years. It is an integrated suite of tools to aid manufacturers in improving the efficiency of energy systems and equipment within a plant, including motors, pumps, fans, process heating, steam, and compressed air. Additionally, there are modules for wastewater energy analysis and to help perform energy treasure hunts. Several calculators are also included, allowing users to independently perform smaller calculations and analyses (such as estimating pump head, performing a fan traverse analysis, estimating waste heat recovery potential, and cataloging compressed air leaks). The MEASUR modules are based on previous DOE software tools that have been used by industry since the early 2000s (such as MotorMaster, AirMaster+, PSAT, PHAST, and FSAT). The original tools only ran on Windows operating systems, and by Windows 10, most of them were inoperable. DOE started their energy [More>>](#)

Developers:

Accawi, Gina [ORCID](#) ^[1]; Root, Robert [ORCID](#) ^[2]; Blondheim, Nick [ORCID](#) ^[2]; Howard, Dmitry; Hernandez, Rachel [ORCID](#) ^[2]; Armstrong, Kristina [ORCID](#) ^[1]; Cranfill, Kita ^[1]; Shires, Preston ^[1]; Kaminski, Michal; Hadden, Jon; DePauw, Josh; Sakovets, Yevi [ORCID](#) ^[2]; Causey, Colin; Beanblossom, Kyle; Whitmer, Michael; Ledbetter, Allie; Rappoport, Ben; Saravanan, Shiva; Merchant, Charlotte; Kokul, Shubham; Fontenot, Zach; Vance, David ^[1]; Worley, Andrew; Aziz, Omer [ORCID](#) ^[1]; Ferree, Autumn; Rosser, Noah; Jensen, Jeff; Adams, Mark ^[1]; Rios, Raul

- Hide Developer Affiliations

1. Oak Ridge National Lab. (ORNL), Oak Ridge, TN (United States)
2. Intertech, Inc.

Contributors:

Project Leader: Wenning, Thomas [ORCID](#) ^[1]; Armstrong, Kristina [ORCID](#) ^[1]
Project Manager: Accawi, Gina [ORCID](#) ^[1]
Research Group: Casada, Don; Thekdi, Arvind; Martin, Vern; Martin, Donovan; Falk, Mats; Wroblewski, Ron; Harrell, Greg; Cunningham, Glenn; Papar, Riyaz; Brockway, Walt
Researcher: Abbas, Ahmad [ORCID](#) ^[1]; Chaudhari, Subodh [ORCID](#) ^[1]; Sundaramoorthy, Senthil [ORCID](#) ^[1]; Botts, Alex [ORCID](#) ^[1]; Cox, Daryl [ORCID](#) ^[1]; Guo, Wei [ORCID](#) ^[1]
Supervisor: Nimbalkar, Sachin [ORCID](#) ^[1]

- Hide Contributor Affiliations

1. Oak Ridge National Lab. (ORNL), Oak Ridge, TN (United States)

Archiving

- OSTI maintains a dark archive and serves as departmental backup and storage
 - Open Source Software hosted in a public repository (Git or SVN)
 - Copy of the source code is automatically pulled and stored in dark archive
 - Copies are pulled daily, so subsequent changes to the source code are captured/preserved
 - Open Source Software **not** hosted in a public repository and Closed Source Software
 - File upload of source code must be provided during announcement of the software
- Copy of the source code is used for archiving and preservation purposes only and **not** distributed by OSTI
- All source code files are inspected before project approval to ensure requirement is met

Resources

- DOE CODE reports its software inventory to the government-wide Code.gov website, which fosters scientific progress, provides transparency to and promotes public understanding and use of DOE-funded open source software.

[Help](#) - information about Submitting and Announcing software to OSTI / DOE CODE

Videos & Tutorials

- [Introducing DOE CODE](#)

Selected Articles and Presentations

- 05/16/2018 [Poster](#) presented at Oak Ridge National Laboratory Software Expo 2018 by Lance Vowell (OSTI), Shelby Stooksbury (OSTI/IIA), and Tim Sowers (OSTI/IIA)
- 05/03/2017 [The New Energy Science and Technology Software Center](#) presented at the DOE Scientific and Technical Information Program (STIP) Annual Working Meeting by Jay Jay Billings (ORNL)
- 04/21/2017 [DOE CODE Metadata](#) by Katie Knight (ORNL) at the [Code4LibSE 2017 Emory Meeting](#)
- 03/01/2017 [Poster](#) presented at SIAM CSE17 PP108 Minisymposium: [Software Productivity and Sustainability for CSE and Data Science](#) by Jay Jay Billings (ORNL)

API Documentation

Community and Best Practices

- [DOE CODE GitHub site](#)
- [Code.gov](#)
- [The Better Scientific Software Portal](#)
- [Semantic Versioning](#)
- [Force11 Software Citation Implementation Principles](#)

Helpful Links

Software Policy: osti.gov/doecode/policy

FAQs: osti.gov/doecode/faq

Help: osti.gov/doecode/help



osti.gov/doecode/



github.com/doecode



doecode@osti.gov



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