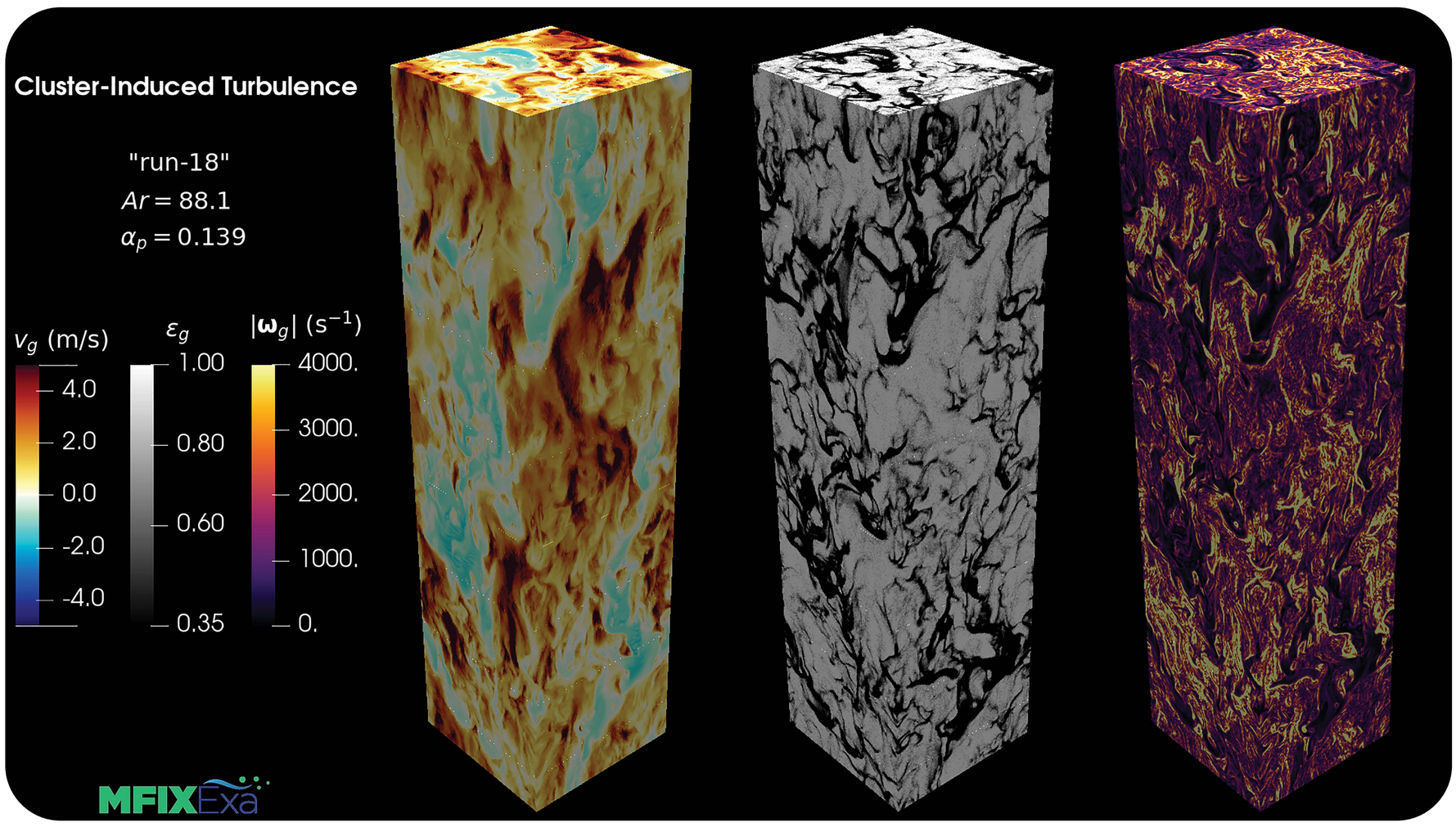
NETL Awarded High-Performance Computing (HPC) Time To Model Novel Energy Processes

NETL awarded more than 400,000 node hours of HPC operation to incorporate next-generation physics-based models into energy modeling codes.



Massively-parallel computational fluid dynamics simulation of cluster-induced turbulence.

NETL is working with partners to model real-world problems and enhance in-house modeling capabilities and has received several awards of HPC time, including:

- 5,200,000 allocation units from the National Renewable Energy Laboratory HPC to develop high-performance thermal barrier coatings and high-entropy alloy-based bond coatings.
- 209,714 node hours and 79,064 GPU node hours from the National Energy Research Scientific Computing Center (NERSC) to quickly design new cost-effective hydrogen-resistant alloys for extreme environments.
- 100,000 node hours from NERSC (ALCC award) to apply machine learning-enhanced multiphase computational fluid dynamics to carbon capture modeling.
- 4,790 node hours from NERSC (ERCAP award) for the use of NETL's MFiX and MFIX-Exa codes:
  - Post-combustion carbon capture with novel polymers of intrinsic microporosity.
  - Bioenergy fluid catalytic cracker regenerator.
  - Verification and validation of a new non-spherical particle model.
  - Code-to-code assessment of particle-laden flows.

NETL PARTNERS

NREL

NERSC National Energy Research Scientific Computing Center

OAK RIDGE National Laboratory

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