

petsc-3.11.3 2019-06-26
Report Typos and Errors

DMStag - Staggered Grids: Examples

The DMStag class encapsulates a Cartesian structured mesh, with "staggered" data living on elements, faces, edges, and vertices.

Beginner - Basic usage

DMSTAG	DMStagGetGlobalSizes	DMStagStencilType
DMStagCreateId	DMStagGetLocationSlot	DMStagVecGetArrayDOF
DMStagCreate3d	DMStagGetStencilWidth	DMStagVecGetArrayDOFRead
DMStagCreate3d	DMStagGetStencilType	DMStagVecRestoreArrayDOF
DMStagGetComers	DMStagSetUniformCoordinatesExplicit	DMStagVecRestoreArrayDOFRead
DMStagGetDOF	DMStagStencil	
DMStagGetGhostCorners	DMStagStencilLocation	

Intermediate - Setting options for algorithms and data structures

DMStagCreateCompatibleDMStag	DMStagSetFirstRank	DMStagGetNumRanks
DMStagGetIdCoordinateArrayDOFRead	DMStagGetIdLastRank	DMStagMatSetValuesStencil
DMStagGetIdCoordinateLocationSlot	DMStagGetLocalSizes	DMStagRestoreIdCoordinateArraysDOFRead
DMStagGetBoundaryTypes	DMStagGetLocationDOF	DMStagSetUniformCoordinatesProduct

Advanced - Setting more advanced options and customization

DMStagMigrateVec	DMStagSetDOF	DMStagVecGetValuesStencil
DMStagSetBoundaryTypes	DMStagSetGlobalSizes	DMStagVecSetValuesStencil
DMStagSetCoordinateDMType	DMStagSetUniformCoordinates	DMStagVecSplitToDM2D

Developer - Interfaces intended primarily for library developers, not for typical applications programmers

DMStagGetEntriesPerElement	DMStagSetNumRanks	DMStagSetOwnershipRanges
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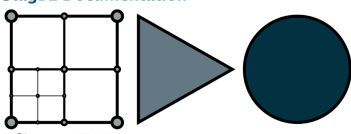
No deprecated routines

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StagBL Documentation



STAGBL

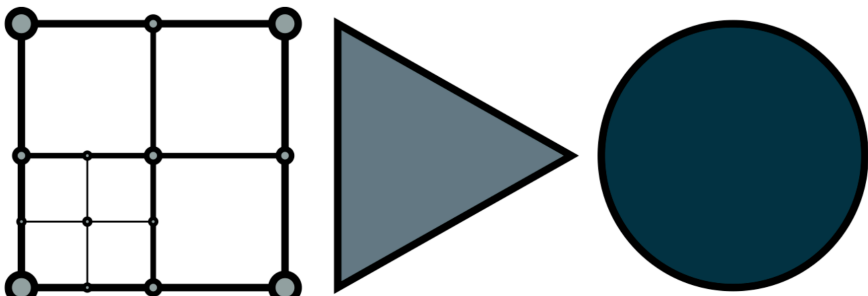
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stagbl/stagbl: StagBL: A scal... x +

github.com/stagbl/stagbl

README.rst



STAGBL

build passing docs passing

About

StagBL is a C library designed to allow optimized, massively-parallel Stokes solvers for geodynamics application codes based on finite-volume methods on regular, orthogonal grids, usually coupled to a particle-based advection scheme.

It aims to be as lightweight as possible while still providing the flexibility and extensibility required for scientific application codes. This accomplished with careful design and interfaces to powerful external libraries. In particular, its parallel staggered-grid data structure leverages the [DMStag component](#) within [PETSc](#).

Development of StagBL is supported by the [Platform for Advanced Scientific Computing](#).

https://github.com/stagbl/stagbl/blob/master/docs/resources/logo/logo_half.png

github.com/stagbl/stagbl