Inverse Iterator

1.0

Generated by Doxygen 1.8.13

Contents

Chapter 1

Class Index

1.1 Class List

Here are the classes, structs, unions and interfaces with brief descriptions:

Chapter 2

Class Documentation

2.1 InverseIterator Class Reference

`#include <InverseIterator.h>`

Public Member Functions

- InverseIterator (double $**$, int, double, char $*$)
- double getEigenValue (bool)

2.1.1 Detailed Description

Class InverseIterator is intended to perform inverse iteration algorithm to find the smallest eigenvalue of a given matrix, using AMGX library (https://github.com/NVIDIA/AMGX) to solve the system of linear equations.

2.1.2 Constructor & Destructor Documentation

2.1.2.1 InverseIterator()

```
InverseIterator::InverseIterator (
            double ** matrix,
            int N,
            double epsilon,
            char * AMGXConfigFilePath )
```

Initialize the AMGX library. It set up computing environment based on configuration file: allocate memory, load the matrix and vectors.

Parameters

matrix	The square matrix that we are considering
N	Size of the matrix
epsilon	Responsible for the accuracy of the calculation
AMGXConfigFilePath	Path to the AMGX-type configuration file

2.1.3 Member Function Documentation

2.1.3.1 getEigenValue()

```
double InverseIterator::getEigenValue (
            bool log )
```

Count and return eigenvalue.

Parameters

log	If true - write the progress to the standard output

Returns

double

The documentation for this class was generated from the following files:

- InverseIterator.h
- InverseIterator.cpp

Index