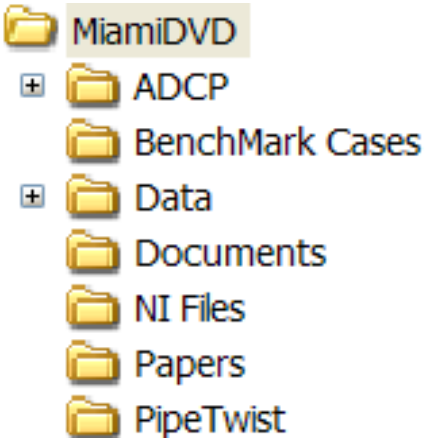
Organization of Data

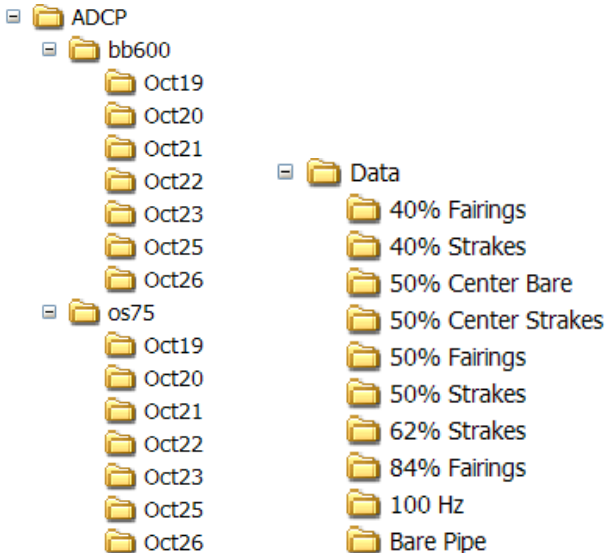
This DVD contains data from the second Gulf Stream VIV experiments conducted from the 19th of October to 26th of October, 2006. The experiment was conducted offshore Miami in the Gulf Stream using a 500 ft instrumented pipe towed behind the University of Miami, RSMAS research vessel Walton Smith.

This information in this DVD is organized in the following directory structure.

Main Directory Structure



Sub Directory Structure



Details of the contents of each directory

ADCP – Contains the RAW current profile data obtained using the ADCP on board the RV Walton Smith. There were two ADCP's which used acoustic signals of different frequencies to measure depth profiles. The data for each day from the 600 KHz ADCP is stored in the subdirectory bb600 while subdirectory os75 stores the 75 KHz ADCP data. Data in the raw form and in .mat format are provided.

Benchmark Cases – Contains datasets (in .mat format) recommended for use in benchmarking or comparison purposes. These datasets contain additional variables which correspond to a more accurate method of calculating the normal incident current velocities using an FE program to match measured curvatures. See variable **'ReadMeNew'** in the data sets for more information.

Data – Contains the processed data (in .mat format) from the experiment. The raw strain measurements are not provided due to space limitations. The data is organized by the nature of the experiment carried out. For example, the directory "50% Center Strakes" contains the data for the experimental setup where 50% of the strakes were deployed in the middle of the pipe with 25% of the pipe bare at the top and bottom. Appendix E in the documents folder provides details of the various experimental setups tested during the second Gulf Stream experiments. Each processed data set is a .mat file with a variable called **'ReadMe'** which explains data variable names in the processed dataset.

Documents – Contains the report for the second Gulf Stream experiments and its appendices.

Papers – Contains some recent papers that present results from analyzing the data obtained from the second Gulf Streak experiments.

NI Files – Contains the raw data obtained from the National Instruments Data Acquisition System (NIDAS). The NADAS was used to record data from the current meters, depth gauge, load cell and tiltmeter. The data is in .lvm format which can be read using EXCEL. This data has been processed and included in the data set .mat files.

Picture – Contains some photographs and movies taken during the experiment.

PipeTwist – Contains the twist in the fibers introduced during manufacture. These rotation angles were obtained using the bare pipe case 20061023203818.mat and can be used for most of the cases with acceptable error assuming that the RailRoad Wheel at the bottom does not introduce additional twist in the pipe. The rotation values have to be calculated on a case-by-case basis if more accuracy is required. Refer OMAE2007-Hayden in the papers folder for details on how to use these rotations.

File **Known_Problems.dat** mentions the problems that have been discovered so far in working with the data set.