Journées utilisateur du code DOROTHY – DORTHY users' days.

Le Havre – 17 et 18 may 2022

Laboratoire Ondes et Milieux Complexes (LOMC UMR6294 CNRS – Univ. Le Havre Normandie)

Tuesday, May the 17th

09:00 to 12:00 – Introduction and latest news about Dorothy - G. Pinon

- Presentation of the different modules of the code DOROTHY based on former works
- Rapid presentation of the latest developments in the code DOROTHY
- Versioning of the code Gitlab du LITIS / Gitlab IFREMER
- Management of the git : account, branches, bugs fixing methodology, how to upload new developments, merge request, non-regression test cases, etc.
- Presentation of the different parameters files, how to use the code DOROTHY computation of an esay and rapid configuration

13:30 to 16:30 - Lifting line computations using the NREL configuration - M. Roperch and M.A Dufour

- Presentation of the core equations of the lifting line module
- Identification & characterization of the dedicated parameters to run such a configuration
- Computation of a lifting line simulation on the local computers using the NREL configuration: the input and output files, how to obtain the performances, etc.
- Post-treatment of the results, comparison with the BEMT results, convergence, etc.
- Definition of a new non-regression test case to be added in the list of existing ones.
- Coding of the sub-iteration to improve the convergence of the lifting line module.

Wednesday, May the 18th

9:00 to 12:00 - Lifting line computations using a regular elliptical wind configuration – M.A Dufour

- Presentation of the considered elliptical wind configuration
- Fixing of possible bug in the considered configuration.
- Computation of this elliptical wing configuration on the local computers: the input and output files, how to obtain the performances, etc.
- Post-treatment of the results, comparison with the theory, convergence, etc.
- Definition of a new non-regression test case to be added in the list of existing ones.

13:30 to 16:30 – Computation of Windnall et al.'s instabilities on a vortex ring - F. Lefebvre

- Presentation of the considered slender vortex ring configuration
- Identification & characterization of the dedicated parameters to run such a configuration
- Computation of perturbed and non-perturbed vortex ring on the local computers: the input and output files, how to post-treat the current results, etc.
- Development of the routines for calculating the energy per mode following the given equations
- Post-treatment of the results, comparison with the theory, convergence, etc.

Friday, May the 20th

9:00 to 11:00 – Debrief of the two previous days and more generally on the current work Access via zoom possible : - max 15 minutes for each presentation

- Recent lifting line developments in the code M.A. Dufour
- Presentation of the obtained lifting line results on the NREL configuration and TIGER future work M. Roperch
- Improvements in the ambient turbulence modeling C. Choma Bex
- Interaction of turbine in a farm under real in situ conditions G. Pinon (based on the work performed by Y. Ben Belkacem)
- The Austral 2 project F. Zilic de Arcos (presentation of the Marie Sklodowska-Curie project)