



FINAL PROJECT ASSESSMENT FOR POLITO EXCHANGE STUDENTS Academic Year 2022/2023

STUDENT'S FAMILY NAME AND NAME: ANDREA CIOFFI

PROJECT SUPERVISOR: M.Sc. Victoria He, Prof. Schiffmann

HOST INSTITUTION: ECOLE POLYTECHNIQUE FEDERALE DE LAUSANNE - EPFL

PROJECT TITLE: 1D thermal modeling of an high-speed compressor-turbine unit with CFD-FEA validation

MONTHS DEVOTED TO THE PROJECT:

WORK LOAD IN ECTS CREDITS: 30

EVALUATION IN ECTS GRADING SCALE:

A	EXCELLENT	X
B	VERY GOOD	
C	GOOD	
D	SATISFACTORY	
E	SUFFICIENT	

COMMENT OF THE FINAL PROJECT SUPERVISOR:

During his Master's thesis, Andrea focused on the examination of heat transfer effects in a newly developed small-scale high-temperature compressor-turbine unit within our laboratory. His primary objectives included the establishment of a 1D heat model using Simscape and subsequent validation through a comprehensive suite of analytical tools, including Computational Fluid Dynamics (CFD), Finite Element Analysis (FEA), and initial experimental data.

Andrea demonstrated a remarkable degree of autonomy, forging valuable connections within our laboratory, and approaching the research question with critical thinking and good attention to detail. This approach yielded interesting results and showed paths necessitating further exploration.

Andrea has a strong sense of motivation and a commendable work ethic. We are very interested in observing the trajectory of his future academic and professional pursuits, as they undoubtedly hold great promise.

Victoria He, PhD student and project supervisor

DATE: 16/09/2023

SUPERVISOR'S SIGNATURE:

STAMP OF THE HOST INSTITUTION

