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| **SAMSUN UNIVERSITY** |
| **FACULTY OF AERONAUTICS AND ASTRONAUTICS** |
| **DEPARTMENT OF AEROSPACE ENGINEERING** |

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| **DESIGN PROJECT** |
| **Name SURNAME** |

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| **SAMSUN UNIVERSITY** |
| **FACULTY OF AERONAUTICS AND ASTRONAUTICS** |
| **DEPARTMENT OF AEROSPACE ENGINEERING** |

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| **PROJECT TITLE** |

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| **Date of submission:** | **12 January 2019** |

FOREWORD

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| January 2019 | Name SURNAME |

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ABBREVIATIONS

**CUS :** Circunferentially Uniform Stiffness

**CAS :** Circunferentially Asymmetric Stiffness

**FEM :** Finite Element Method

**xFEM :** Extended Finite Element Method

**FVM :** Finite Volume Method

**FSI :** Fluid Structure Interaction

**BEM :** Blade Element Theory

**IES :** Ion Engine System

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**PROJECT TITLE (ENGLISH)**

SUMMARY

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1. INTRODUCTION

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* 1. Purpose of Project

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* 1. Scope

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* + - 1. Motivation

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1. ANALYTICAL MODELLING

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* 1. Euler-Bernoulli Beam Theory

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| $$A=πr^{2}$$ | (2.1) |

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* + 1. Model 1

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* + - 1. Static analysis results

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1. Cross-section

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| $$f\left(x\right)=a\_{0}+\sum\_{n=1}^{\infty }\left(a\_{n}\cos(\frac{nπx}{L})+b\_{n}\sin(\frac{nπx}{L})\right)$$ | (2.2) |

where

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| $$a^{2}+b^{2}=c^{2}$$ | (2.3) |

* 1. Timoshenko Beam Theory

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2. RESULTS AND DISCUSSION
	1. Review of Models

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* + 1. Static analysis results

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	* + 1. Dynamic analysis results

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* 1. Model 2

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* 1. Comparison of Model 1 and Model 2

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* 1. Effect of Sweep Angle

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2. CONCLUSION AND FUTURE WORKS
	1. Conclusion

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* 1. Future Works

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**APPENDICES**

**APPENDIX A:** Airfoil Data

**APPENDIX B:** Code

APPENDIX A

|  |  |
| --- | --- |
| SAMPLE FIGURE | SAMPLE FIGURE |
| (a) | (b) |
| SAMPLE FIGURE | SAMPLE FIGURE |
| (c) | (d) |

1. (a) Sample figure a, (a) Sample figure b, (b) Sample figure c and (d) Sample figure d

APPENDIX B

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