Work in electronic format in the ProQuest Dissertations & Theses database, where it may be made available for free download. A subset of the ProQuest Dissertations & Theses database may be accessed by the academic community as well as through major search engines and open access harvesters. ProQuest may also provide an electronic copy of the Work to Author's degree-granting institution where it may also be posted for free open access. Learn more:

Copy Sales. ProQuest and its agents and distributors may offer copies of the Work for sale in tangible media, including but not limited to microform, print and CD-ROM, as well as electronic

- format individually or as part of its electronic database and reference products and services. No royalties shall be due to Author.
- Publishing Fees. Author's payment of the additional Open Access fee is a one-time, up-front fee in addition to the ProQuest dissertation or thesis publishing fee. Author's institution may assess additional fees to be collected along with the Open Access and publishing fees.

Section III. Publishing Options & Signature

Select the publishing options below that best fit your interests and scholarly publishing obligations.

Traditional		

I want to make my work widely available and I want to be eligible to receive royalties on the sale of my work.

- I understand that I must maintain a current mailing address with ProQuest in order to be eligible to receive royalties.
- I understand that the ProQuest fee for Traditional Publishing is \$25 for Master's thesis and \$25 for Doctoral dissertations, and that my graduate institution may pay all or a portion of the total fee as well as may require additional fees in association with my submission to ProQuest.

Open Access Publishing Plus

- □ I want the broadest possible dissemination of my work, and I want to provide free global access to the electronic copy of my work via the internet.
 - I understand that I will not be eligible to receive royalties.
 - I understand that the ProQuest fee for Open Access Publishing Plus of Master's thesis is \$120 and for Dissertations is \$120, and that my graduate institution may pay all or a portion of the total fee as well as may require additional fees in association with my submission to ProQuest.

Select Publishing Options
Science I administrate Designation
<u>l want my work to be available as soon as it is published.</u>
▼ Yes
□ No – I would like access to the full text of my Work to be delayed for the following period of time:
☐ 6 month embargo
☐ 1 year embargo
☐ 2 year embargo
Note: Most institutions have delayed release (embargo) policies; please consult with your Graduate School/Program if you need to delay the release of your Work. Access to the full-text of your work will be delayed for the time period specified above, beginning from the date that we receive your manuscript at ProQuest. During
this time, only your citation and abstract will appear in the ProQuest Dissertations & Theses database (PQDT).
i want major search engines (e.g. Google, Yahoo) to discover my work.
Yes
□ No
Learn more: http://www.proquest.com/en-US/products/dissertations/google.shtml
Acknowledgment: I have read, understand and agree to this ProQuest Publishing Agreement, including all rights and restrictions included within
the publishing option chosen by me as indicated above.
REQUIRED Author's signature Date 3/20/17
(Print Name) Kyle Bonner Thompson
Institution conferring degree North Carolina State University
This page must accompany your manuscript and the rost of the submission motorials

						Please check type of ma	nuscripa:	
Dissertat	ion/Ma	ster's Thesis	Submission Forn	n		M (Master's Th	esis)	
Please print clearly in block letters								
Personal Inf	ormation					D (Dissertation)	
Last Name Thompson					Middle Name or Initial	Bonner		
First Name _	meKyle			Country(ies) of Citizenship		USA		
· Degree & E	issertati	on Information						
Title of Dissertat		Aerothermodynami	c Design Sensitivities for a Using a Discrete Adjoint I		ow Solver on an			
Institution conferring degree North Carolina State			State University			Degree awarded (abbreviate; e.g., Ph.D.)	Ph.D.	
College, School,	or Division	College of Eng	ineering	_		Year degree awarded	2017	
Department or Program Department of Mechanical and Aeros			space Enginee	ering	Year manuscript completed	2017		
Advisor/Commit	tee Chair	Dr. Hassan Ha	ssan					
Committee Men	Dr. Bater Creffs			Committee Member	Dr. Jack Ed	Dr. Jack Edwards		
Committee Men	nber	Dr. Hong Luo		Committee Member	Dr. John G	riggs		
Committee Member			Committee Member	: 				
Language of mai	nuscript	English						
Primary Subject	Category: En	ter the 4-digit code and the disciplinary area of	category name from Guide your research.	Code 0538	_{Category} Behavi	oral, Natural, and Physical	Sciences	
You may sugges	t two addition	al subject categories th	at may aid in the discovery	of your work in our	digital database.			
Code 0405		Category Behavioral, N	atural, and Physical Sciences	Code 0364	Category Behavi	oral, Natural, and Physical	Sciences	
Provide up to 6 l	eywords or s	hort phrases for citatio	n indices, library cataloging,	and database sear	ching.			
Computat	ional Fluid	d Dynamics	Hypersonics		Optimization			
Reacting	Flow		Decoupled		Numerical Analysis			
Current Cor		mation Curr	ent Email					
Street Address (line 1)	7228 N	it. Pleasant Rd.			• • •			
Street Address (line 2)								
City	Willow	low Spring State/Province		NC	Daytime Phone	(919) 753-3465		
Country	USA	SA Postal Code		27592	Evening Phone	(919) 753-3465		
Permanent	Contact I	ntormation	nanent iil Address					
Street Address (line 1)	7228	Mt. Pleasant Rd						
Street Address (line 2)								
City	Willow	Spring	State/Province	NC	Future Phone	(919) 753-3465		
Country	USA		Postal/ZIP code	27592	Alternate Future Phone	(919) 753-3465		
•						· · · · · · · · · · · · · · · · · · ·		

THIS PAGE MUST ACCOMPANY YOUR MANUSCRIPT AND THE REST OF YOUR SUBMISSION MATERIALS Attach additional, separate copies of your Title Page and Abstract to this form