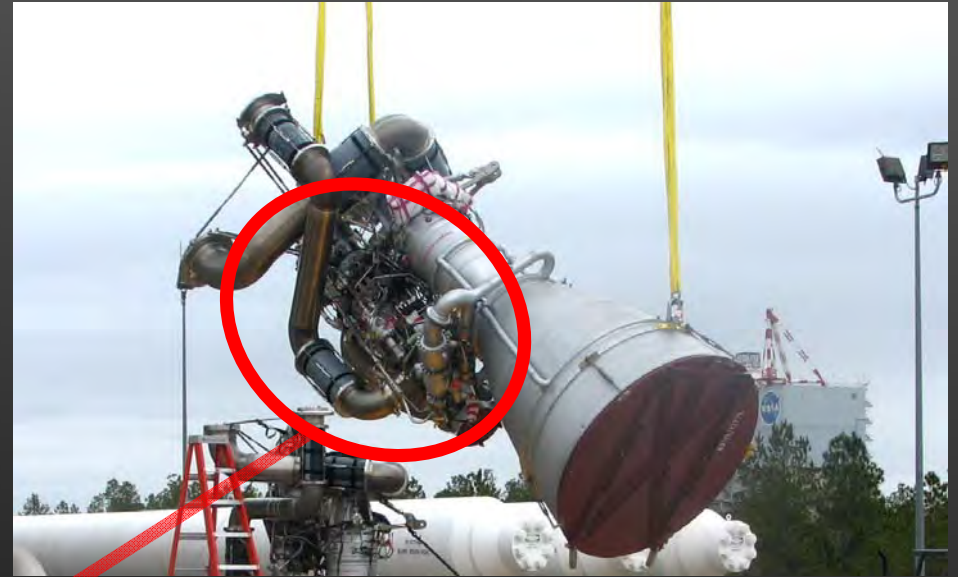
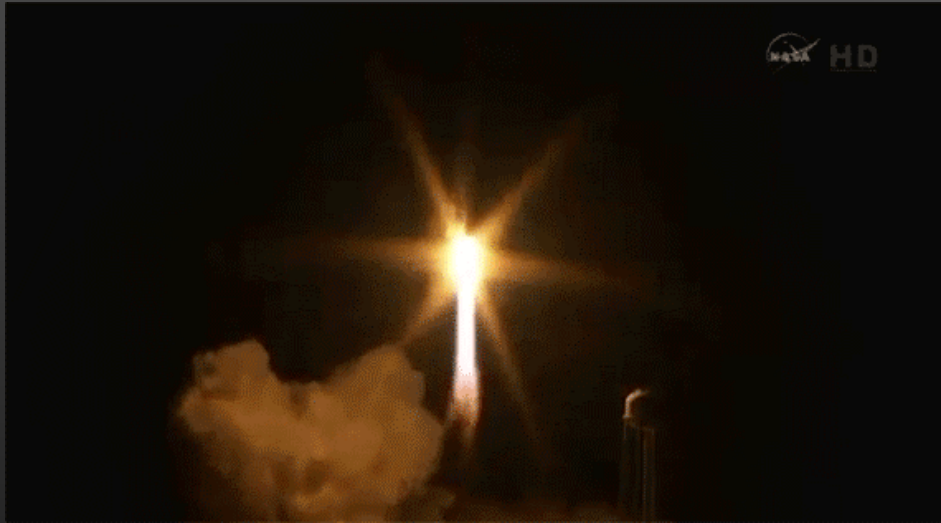


# UTILIZING STRUCTURED LIGHT SCANNING TECHNOLOGY FOR THE DEVELOPMENT OF STRUCTURAL DYNAMIC ANALYSIS MODELS OF LIQUID ENGINE HARDWARE

Luke Scharber NASA MSFC ER41

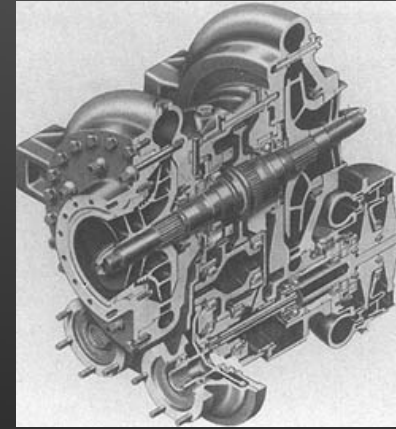




Turbopump location

# ORBITAL CRS-3 FAILURE





(H-1 Turbopump Cutaway)

# AJ-2658/NK-33 TURBOMACHINERY



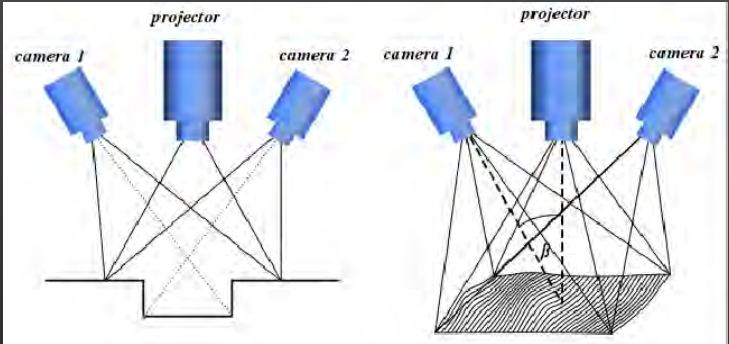
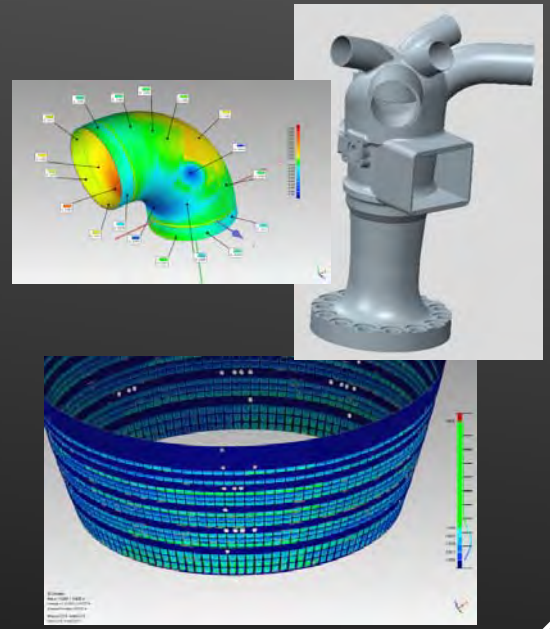
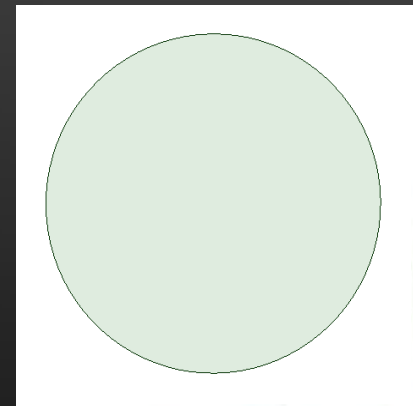
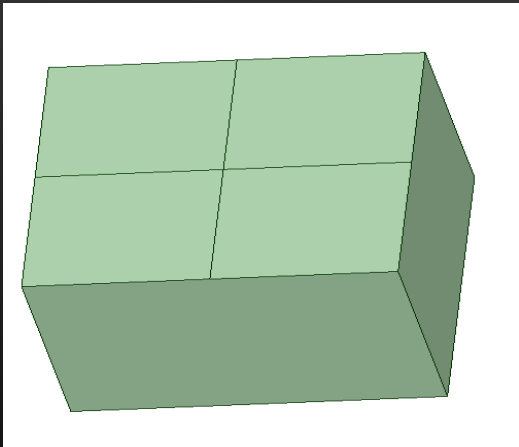
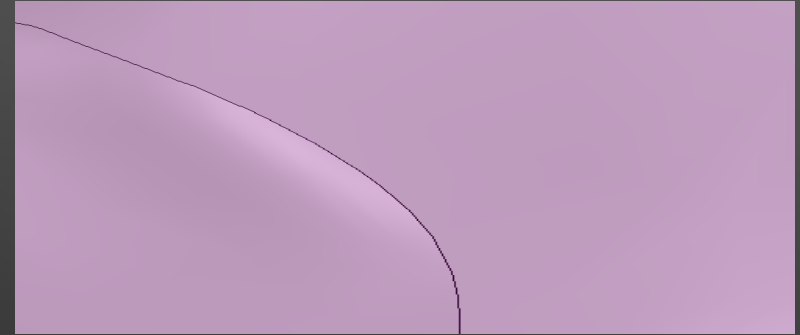
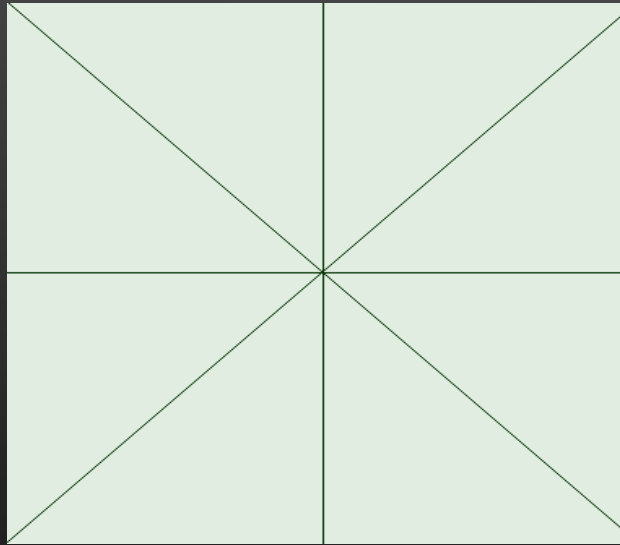
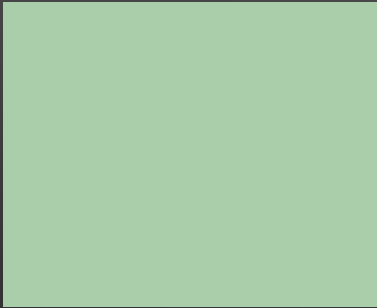


Image Credit: Wikimedia /Vanessa Ezekowitz



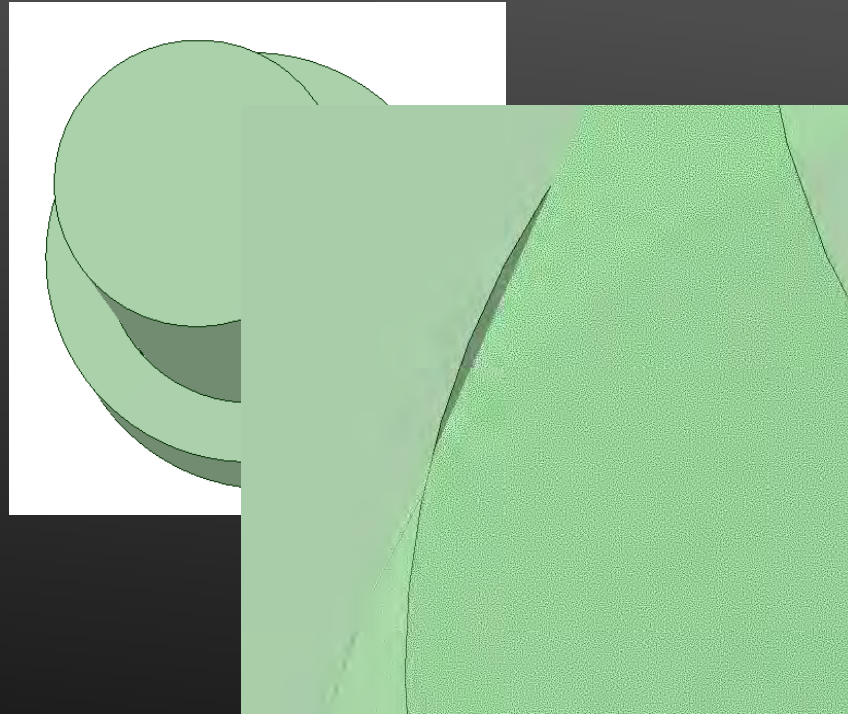
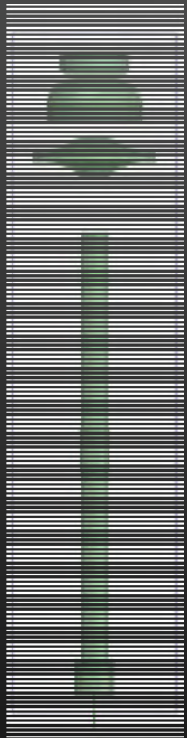
# STRUCTURED LIGHT SCANNING





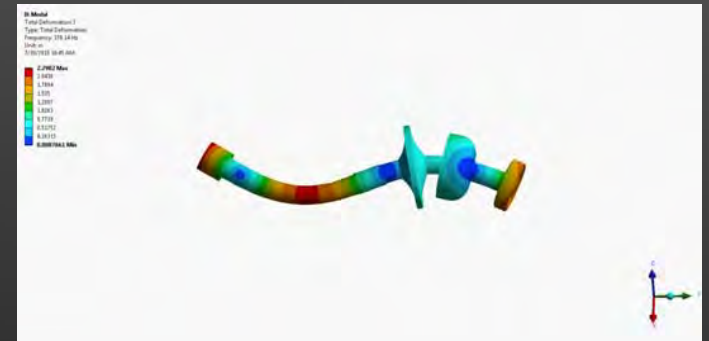
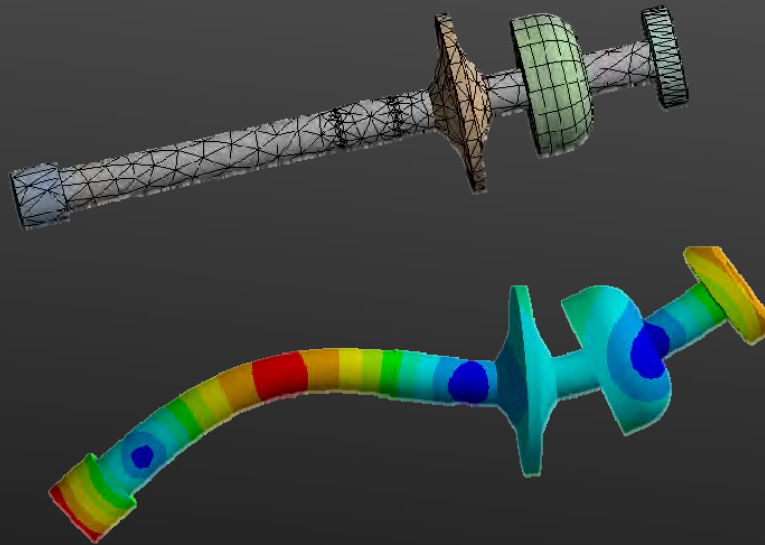
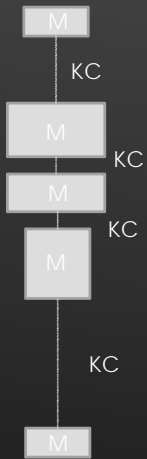
ISSUES PERTAINING TO SCANNED  
SOLUTIONS  
MODEL GEOMETRIES





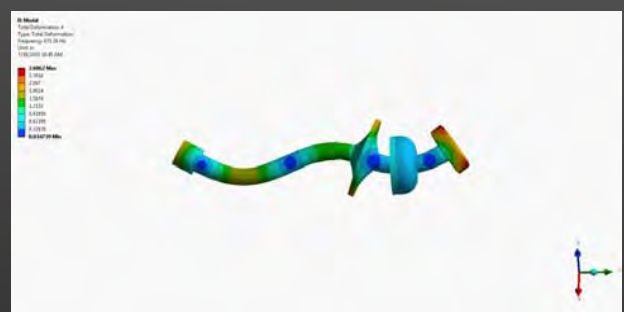
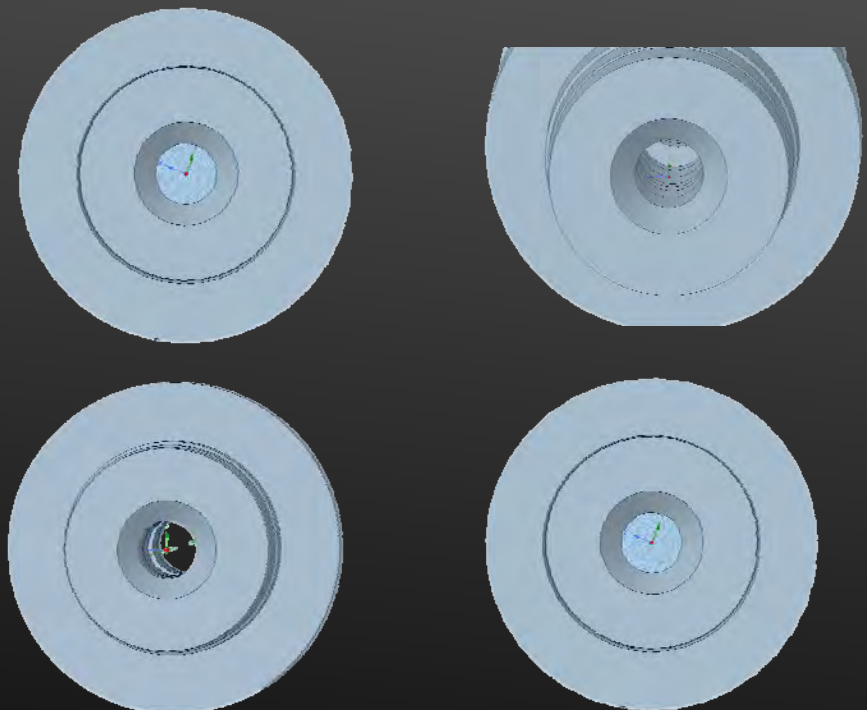
# STRUCTURED LIGHT MODEL OPTIMIZATION FOR ANALYSIS





# MODAL ANALYSIS OF A TURBOPUMP ROTARY SHAFT





# DATA COLLECTION FROM MODAL ANALYSIS





# QUESTIONS?

Thanks!

