DEVELOPMENT OF THE PROTURB v1.0 WORKBENCH PROGRAM FOR DESIGN AND ANALYSIS OF TURBOMACHINERY AND AEROSPACE PROPULSION SYSTEMS

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AIM

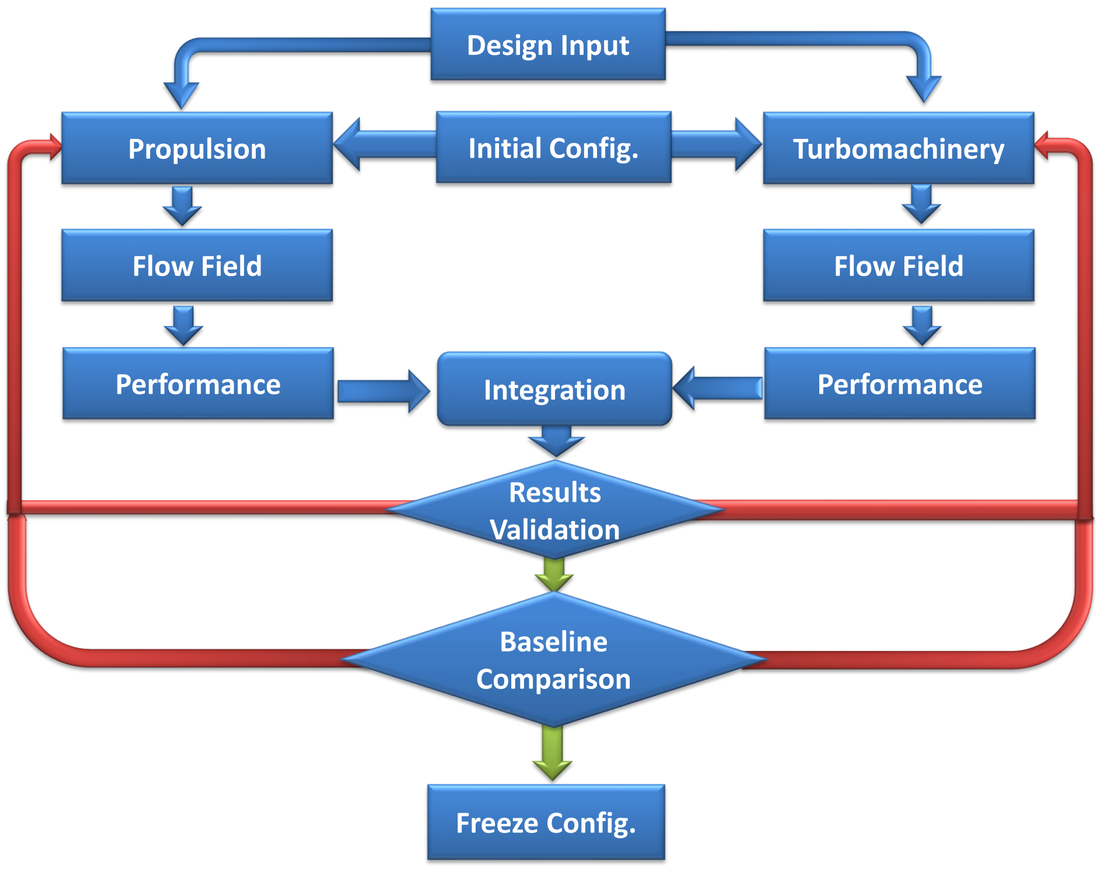
To Make PAF Indigenized in Field of Analysis and Design of Turbomachinery and Aerospace Propulsion Systems.

SCOPE

It is NGFA Research Support Project Consisting of Two Phases

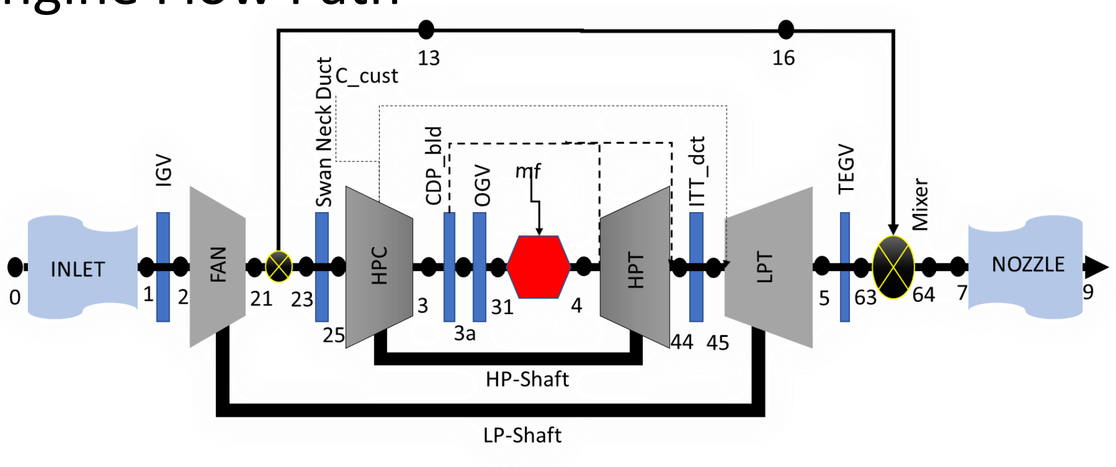
- Phase-I Deals with Design and Analysis of Turbofan Engine for Next Generation Supersonic Transport Aircraft According to AIAA Requirements
- Phase-II Deals with Development of an Indigenous System Design and Analysis Program-ProTurb v1.0 for Aeroengine and Turbomachinery Systems

METHODOLOGY

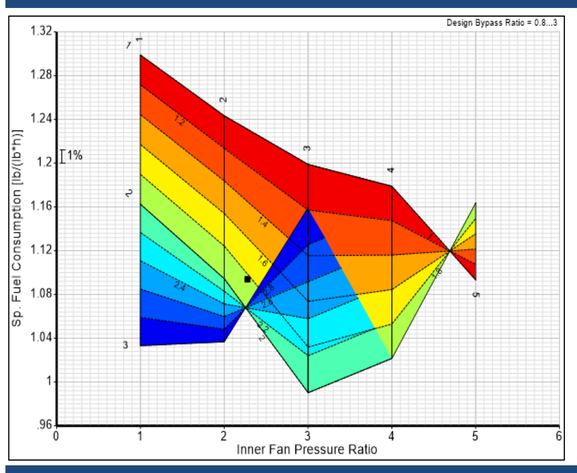


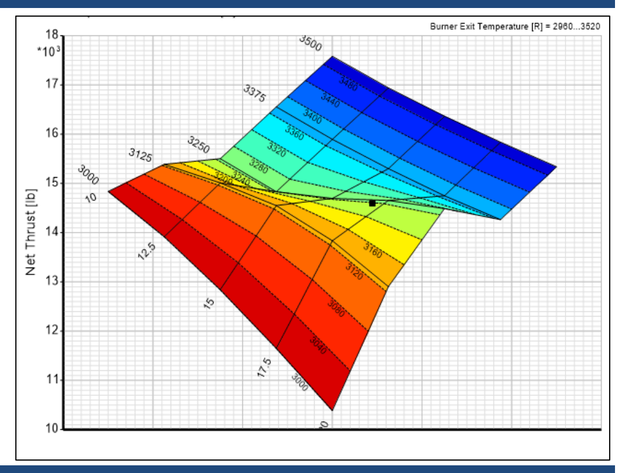
SERP-TFE 84-01 ENGINE

Engine Flow Path



TRADE STUDIES

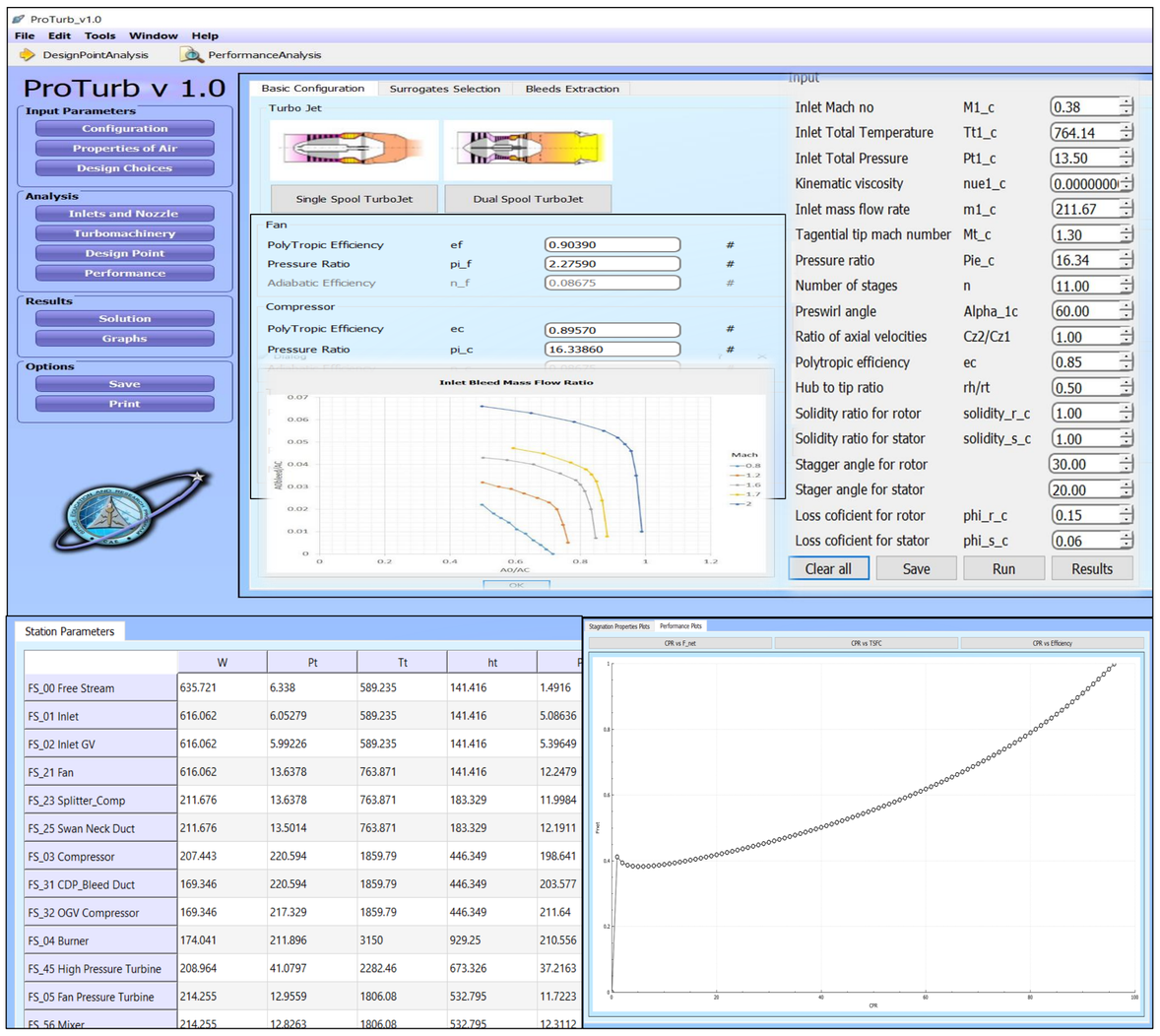




ENGINE SUMMARY

Design MN	1.60	
Design Altitude	52500.00	ft
Design Bypass Ratio	2.20	
Design Net Thrust	14694.93	lbf
Design TSFC	1.03	lbm/hr/lbf

PROTURB v1.0



CONCLUSION

- Engine SERP-TFE 84-01 Stood Among Top 10 Engines According to AIAA
- ProTurb v1.0 to be used as Teaching Tool in CAE and it May be Employed for NGFA Project