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HELIACOPTER AERODYNAMICS

Estimating helicopter performance requires large computational time, efficient CFD technique is required.

- ROTOR AERODYNAMIC ANALYSIS
  CFD-wake coupling concept. Actuator Surface Method

- MULTI RESOLUTION ANALYSIS (MRA)
  The fundamental idea behind MRA is that fluxes are computed only at the points where the gradients of the flow fields are salient, aiming at enhanced computational efficiency.

AIRCRAFT DESIGN & OPTIMIZATION

- HELICOPTER ROTOR BLADE
  Improvement of Aero-Acoustic performance

- TURBOFAN ENGINE COMPRESSOR/TURBINE
  Nozzle guide vane / rotor blade shape optimization/HPT cooling design

AERODYNAMIC R&D OF OTHER VEHICLES

- AUTOMOTIVE AERODYNAMICS
  Aerodynamic drag reduction for fuel efficiency

- HIGH ALTITUDE SCIENTIFIC BALLOON
  Development of Cost Efficient Infrastructure

AVIATION SAFETY

- ICING PROBLEM
  Below freezing temperature, super cooled liquid water droplets freeze on the aircraft surface.

- WAKE HAZARD AVOIDANCE
  Measurement integrated simulation - At take off and landing, strong wingtip vortex from preceding aircrafts threaten lagging aircrafts.

ABOUT LABORATORY

Post Doc: 1 / Ph.D: 4 / M.S: 7 / Internship: 2
대규모 수치해석을 위한 클러스터 컴퓨터 전망 좋은 연구실 위치, 다양한 취미생활