

UF AIAA 4th General Body Meeting Minutes
November 4, 2009 @ 6:15pm
Florida Gym, Room 260

Grad School Workshop

Pizza and drinks served

Meeting of the officers

Why become a member?

- Regional Conference

- Discount on Books

- Professional Magazine

- Officer Opportunities

TED video/ ???The Joy of Rockets???

Interested in individual research

Dr. Peter Ifju

- Micro Air Vehicles (MAV)

- Fixed and Flapping wing

- MAV are difficult to fly

- Massive flow separation leads to poor lift-to-drag ratios

- Make wing to adapt to wind gust

- Geometry influences aerodynamic performance

- Thin undercambered wings perform better than those with thickness

- Benefits of the UF design

 - Gust alleviation

 - Durability

 - Storage

 - Morphing

 - Stability, high lift

- Designs for certain sponsors/ideas

- Competition history

 - Held world record

- Aeroelastic membrane fixed-wings

- Flow modeling

- Wing finite elements

- Aeroelastic coupling

- Experimental characteristic

 - Wind tunnel tests

- Digital image correlation (DIC)

- Integration of DIC for wind tunnel

- Aeroelastic topology optimization

- Optimal design validation

- Motivation for flapping-wing studies

 - Involving coupled kinematics, structural dynamics and aerodynamics

 - Few studies on wing compliance and aerodynamic interaction

- Flapping mechanism

- Wings tested

Various layers of reinforcement

Average thrust comparison

Deformation results

In air

In vacuum

Deformation coupled with PIV

Conclusions

Improvements in terms of stability, gust alleviation and efficiency over rigid wings

SWE AIAA potluck

November 19, 8pm

Piper tour

January 14, 2010

Gulfstream tour

Early December (possibly during reading days)

End of Meeting Minutes

Presented by Jonathan Hipps

Secretary of UF AIAA