

## **Systems Definition & Project Lead**

As an experienced and self-motivated engineer I am able to determine and answer the key questions that lead to both a timely result and workable product.

As a project lead my goal is to direct the talents of team members and maintain the system's advancement towards an initial, low-risk implementation. It is vital to track the varied inputs going into a clean sheet (or modified) design which help to define both the top level requirements and overall strategy for maintaining cost and schedule.

### Applicable and Recent Experience

Predator and Amber unmanned aircraft, composite structures	1985-1988, 1996, 2009-2011
X37A tail structures and flaperon installation	2002-2004
Orbital Express Systems Definition	2000-2001

**Education:**    **MS, Physics, University of Kansas, 2009**  
                  **BS, Aerospace Engineering, University of Kansas, 1985**

### **Employment (recent):**

General Atomics - Aeronautical Systems, Inc., Adelanto, CA	Current
University of Kansas, Lawrence, KS	2007 - 2009
The Boeing Company, Huntington Beach, CA	1998 – 2006

### **Employment Experience:**

#### ***Systems Definition – The Boeing Company, 1996-2000***

Connecting a given approach to the customer's needs and expectations is vital. There are usually several solutions to a given set of requirements. After determining the overall design-space the next step develops the appropriate strategies at some combination of risk and planning for success.

Satellite Design – Integrated mission-unique orbital servicing systems and space vehicle structure for DARPA/Orbital Express.

Martian atmospheric aircraft – NASA conceived of a low cost mission to Mars in 2003 to commemorate the Wright Brother's first flight. Concept definition, report and presentations (AIAA-2000-5280).

Mars Sample Return – Co-designed the ascent propulsion and staging approach. Developed the design configuration for the return, ascent stage.

Space Solar Power – Performed conceptual layout and analysis of multiple satellite configurations.

Author – SBIR proposal for space based, deployable X-ray telescope. (L'Garde, 1998)

## **David J. File**

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### ***Physics Research – University of Kansas, 2006-2009***

While pursuing calorimetry research I developed my basic particle science knowledge, C++ programming, VME/DAQ and math skills.

Particle/Nuclear Physics – Conducted calibration of an organic scintillator and PMT using various isotopes (Bi207, Cs135 and others). Designed bench hardware and applied an object oriented approach to controlling a VME instrumented setup. Results demonstrated the various concerns in collecting, maximizing and calibrating the energies of scintillator photons.

Biophysics – Special Mathematica projects focused on evaluating a density matrix approach. Current efforts involve molecular simulation tool construction, open systems modeling and an MC toolkit.

Teaching Assistantships – Four semesters of basic physics lab instruction, 3 sections and approx. 65 students per semester.

### ***Unmanned Aircraft / Prototyping / Structural Definition***

I am fortunate to have been involved with numerous prototyping efforts which were eventually fielded with great success.

AMBER – The epitome of UAV success this aircraft was the granddad of the current Predator fleet. Performed diverse and varied tasks in prototyping the Amber unmanned air vehicle. Designed and produced mockup and captive airframe for Lincoln Laboratories. 1985-1988

Predator A – In a team of three...generated the first drawing package for production efforts, 1996-1997

Grey Eagle Programs, Improved Sky Warrior – Created and/or completed over 150 components in 700 hrs. 2010

Structural, Mechanical, Flight Controls – X-37A, mechanical layout, integration and design including structural installation drawings and vehicle configuration tasks. Boeing 2002-2004

UCAV– Designed and wind tunnel tested concept utilizing morphing, telescoping wing (two patents pending).

### ***Launch Systems – Rockwell International, 1989-1996***

Conceptual design experiences include a wide range of aircraft and spacecraft, both manned and unmanned, performed flowpath integration on high-mach cruise vehicles. Integrated avionics and mechanical systems.

SSTO-SDIO – Crafted initial concepts of several types including gumdrops and high fineness profile vehicles.

NASP – Responsible for several design aspects and developments.

X33 – Inboard systems installations.

X34 – Concept definition of Rockwell approach.

Refly/X37A – Responsible for original concept design. Built 2' model for marketing.