



"Columbia Accident Investigation and Return to Flight Activities"

Boeing uses advanced FEA analysis to analyze the foam impact event and other potential debris impacts"

Foam Breaks off External Tank



**Wednesday,
October 26, 2005**
at **Building 100**
(Prologue Room/Auditorium)



With

Jon Gabrys

Technical Fellow, Boeing Philadelphia



Damaged Blanket

Shuttle Discovery

On January 17, 2003 - 81 seconds after lift-off, foam originating from the external tank impacted the shuttle's left wing. Then on February 1st, Space Shuttle Columbia broke-up during re-entry. In the weeks that followed, the Columbia Accident Investigation Board had formed various teams to investigate every aspect of the

tragedy. One of these teams was the Impact Analysis Team, which was asked to investigate the foam impact event to the wing leading edge. This presentation will describe the approach and methodology used by the team to support the accident investigation.

Due to the success of the analytical predictions, the impact analysis team has also been asked to support Return to Flight activities. These activities will continue to analyze impact events, but not with just foam and not only on the wing leading edge. The debris list has expanded and so has the possible impact locations.

Lastly, the presentation will discuss efforts supporting the Shuttle Discovery during its recent mission. Specifically, how analysis was used to address concerns about a damaged thermal blanket next to shuttle window number 1.

Times	Ticket Sellers		Purchase Tickets Prior to Oct 17th			
	Sales Person	Telephone	Bldg.	Level	Post	
Social Hour (Prologue Room) 5:00 – 6:00 PM	1. Peter Cheng	777-3157	66	2N	231	
Presentation (Auditorium) 6:00 – 7:00 PM	2. Larry Brase	234-4907	270A	3	B1	
	3. John Mohr	567-3398	<i>Call for tickets (retirees and public)</i>			
Menu Sandwiches Cookies Chips Soda	4. Claudia Pohrer	234-9929	110	1	128	
	5. Dick Pinckert (Jean Morton for Dick)	234-0623	102W	3W	398	
	6. Walt Reschke	777-4038	66	2S	Rm 250	
	7. Charley Saff (Collin Hale for Charley)	232-1540	245	1E	S05	
	8. Gary White	705-2312	506	1		
	9. Julie Spoto	234-7095	245	1	S02	
	10. Trent Duff	777-4760	32	2	255	
	11. Darin Haudrich	233-7554	107	4	C6	
	12. Valerie Bauman	232-1809	111	3	P2	
	13. Karen Copper	234-5742	106	2	E10	
	14. Rick Emmett	232-7769	303	2E	266	
	15. Mike Swartwout	935-6077	<i>Washington University</i>			
	16. Kay Bopp	977-8240	<i>Parks College of St. Louis University</i>			
	17. Fred Nelson	573/341-4613	<i>University of Missouri – Rolla</i>			
	18. Doug Olsen	469-4180	<i>500 Maryville University Drive</i>			
	Ticket Prices					
	\$10.00 for Non-members					
	\$8.00 for AIAA members					
\$4.00 for Students						