

# Workshop on Fracture Control of Spacecraft, Launchers and their Payloads and Experiments

## PROGRAMME & PRESENTATIONS

### Monday, 9 February 2009, Room: Newton 2

09:30-09:45	Welcome
09:45-10:15	What's New in the New Fracture Control Standard ECSS-E-ST-32-01C? <i>Gerben Sinnema (ESA/ESTEC)</i>
10:15-10:35	Fracture Control of Composites: ECSS-E-ST-32-01C <i>Daniel Aliaga (EADS)</i>
10:35-11:05	Structural Verification for Payloads <i>Rafael Bureo Dacal (ESA/ESTEC)</i>
11:05-11:30	Coffee Break
11:30-12:00	The Role of Failure Analysis and Fracture Mechanics in the Spacecraft Systems Safety <i>Tommaso Ghidini (ESA/ESTEC)</i>
12:00-12:30	<b>Abstract</b> Assessment of the SCC Susceptibility of Light Metal Alloys <i>W. Dietzel (GKSS-Forschungszentrum Geesthacht)</i>
12:30-13:00	<b>Abstract</b> Fracture Control on Launchers: Industrial Implementation <i>M. Vorel (Astrium)</i>
13:00-14:00	Lunch Break
14:00-14:30	<b>Abstract</b> Structural Verification of Glass and Ceramic Components for Manned Spaceflight <i>F. Novo(1), R. Bureo Dacal(2), G. Sinnema(2), C. Moratto(1); (1)AOES Netherlands; (2)ESA-ESTEC</i>
14:30-15:00	<b>Abstract</b> Subcritical Crack Growth in Ceramic Materials <i>L. Prazic(1), S. Behar(2), Y. Vitupier(2), B. Laine(1); (1)ESA/ESTEC, (2)Thales Alenia Space</i>
15:00-15:30	<b>Abstract</b> Safety of Aircraft and Space Structures Prone to Fatigue <i>Mattrand, Cécile (IFMA); Bourinet, Jean-Marc, Lemaire, Maurice (IFMA/LaMI)</i>
15:30-16:00	Coffee Break
16:00-16:30	<b>Abstract</b> Recent progress and new challenges on fracture mechanics methods for rocket engines <i>Patrick Alliot, Alain Pyre (SNECM)</i>
16:30-17:00	<b>Abstract</b> Simulation of Three-Dimensional Crack Propagation in Aircraft and Spacecraft Structures with the eXtended Finite Element Method (XFEM) <i>Wyart, E.; Duflot, M.; Minnebo, H.; Coulon, D.; Lani, F. (CENAERO)</i>
17:00-17:30	<b>Abstract</b> Crack-Propagation Tests In Thin-Sheet Aluminium Specimens. Correlation With A Mathematical Model <i>Martin de la Escalera, F. (Aernnova Engineering Solutions Iberica)</i>
17:30	<b>Drinks</b>

**Tuesday, 10 February 2009, Room: Newton 2**

08:45-09:15	<b>Abstract</b> Fracture Control for Satellite Programmes - a Critical Review <i>Mathias Von Alberti (Astrium)</i>
09:15-09:45	<b>Abstract</b> Damage Tolerance Characterization of 2195 Base Material and Friction Stir Welds <i>Michael Windisch (MT Aerospace), et. al.</i>
09:45-10:15	<b>Abstract</b> Fracture Control Program for an Advanced Composite Overwrapped Pressure Vessel <i>S. Ottaviano, A. Camassa (Thales Alenia Space)</i>
10:15-10:45	Coffee Break
10:45-11:15	<b>Abstract</b> Some Developments in Residual Strength Determination of Thin-Walled Structures <i>U. Zerbst (GKSS Research Centre); K.-H. Schwalbe</i>
11:15-11:30	<b>Abstract</b> Failure Assessment of a Thin-Walled Pipe Subjected to an Overload During Manufacturing <i>U. Zerbst (GKSS Research Centre)</i>
11:30-12:00	<b>Abstract</b> European FITNET Fitness-for-Service Procedure: Application of its Fracture Module to the Stiffened Al-Alloy Panels of Airframe Structures <i>M. Koçak; V. Uz (GKSS Research Center)</i>
12:00-12:30	<b>Abstract</b> Methodology and Analytical Basis for the Assessment of Cracked Components Using the Program VERB <i>I. Varfolomeyev, L. Hodulak, D. Ivanov (Fraunhofer IWM)</i>
12:30-13:00	<b>Abstract</b> Recent developments in ESACRACK <i>R.P.G. Veul, F.G. Grooteman (NLR)</i>
13:00-14:00	Lunch Break
14:00-14:30	FRAMES-2: A Metallic and Composites Material Database Facility <i>François Brunetti (Dorea)</i>
14:30-14:50	<b>Abstract</b> Tensile Testing on Aluminium 2219 at 20 K <i>S. Kébreau (EADS Astrium Space Transportation), Ch. Zauner (KRP-Mechatec Engineering), L. Krämer (Technical University of Munich)</i>
14:50-15:10	<b>Abstract</b> Industrial Implementation of Fracture Control on Payloads <i>P. Cambrésy, R. Krenz (EADS Astrium Space Transportation)</i>
15:10-15:30	<b>Abstract</b> Non-destructive Inspection of Threaded Bolts with Eddy Current <i>A. Dröse, D. Busmann (EADS Astrium Space Transportation)</i>
15:30-15:45	Coffee Break
15:45-16:15	<b>Abstract</b> Application of Fracture Control to ISS Payloads at ESA: Safety Reviews and Certification Processes <i>Claudio Moratto(1), F. Festa(2), M. Malyshev(2), T. Ghidini(2), F. Novo(1), G. Sinnema(2); (1)AOES Netherlands, (2)ESA/ESTEC</i>
16:15-17:00	<b>Discussion and Conclusion</b>