DocumentID	241196
Vortragstitel	Analysis of Integral Transition Structures for FRP-Aluminium Compounds
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Preisträger	
Vortragssprache	englisch
Seiten	8
Veranstaltung	Deutscher Luft- und Raumfahrtkongress 2011
Veranstaltungsort	Bremen
Veröffentlicht in	Deutscher Luft- und Raumfahrtkongress, Tagungsband - Manuskripte, 2011; Seite 485 - 493; DGLR e.V.; Bonn; 2011
Stichwörter	FRP-Aluminium compounds Ti wires
Abstract	The demand for weight saving in aerospace leads to increasing numbers of applications of fibre composites for primary structural components. In consequence the use of FRP-metal compounds is necessary. In load application zones the joints are often accomplished by conventional conjunctions like riveting. Disadvantages are the interrupted load path due to destroyed fibres by drilling and the bulky design due to rivets. The need of lean, weight-minimised and composite optimized hybrid compounds in lightweight design is obvious. Within the investigations of the researcher group "Schwarz Silber" (FOR 1224) founded by the DFG (German Research Foundation) novel interface structures for advanced CFRP-aluminium compounds are currently being studied. Altogether, five interdisciplinary projects are carried out at the University of Bremen. Considering textile, welding and casting techniques novel, integral joint concepts will be designed, dimensioned and produced with the objective to avoid the above mentioned disadvantages and to fulfil requirements like minimum weight for a lightweight design as well as corrosion resistance. Experimental and numerical investigations support the validation and enhancements of the developed solutions. Within their work the researcher group focussed on three concepts realizing the transition structures: the usage of wires (titanium), foils (titanium) and fibres (glass fibre) as transition elements between CFRP and aluminium. The joint between CFRP and the three mentioned transition elements is realized by different textile, casting and welding technologies are used for the connection between transition element and aluminium.