

Integration of Antennas in Aircraft Structures

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ABSTRACT

Due to the increasing functions in the electromagnetic frequency spectrum the number of antennas to be integrated into aircrafts become a demanding challenge for civil and military aircraft manufacturer. With the widely spread operating frequency range a lot of antennas differing in form, size and functions needs to be placed accurately on the outer side of the aircraft structure, which is leading to the challenge, that available integration areas are limited by mounting area and appropriate radiation performance. For this reason a new integration approach was elaborated, to integrate antenna radiating elements into the primary aircraft structure. For the realisation of this innovative approach different disciplines, namely RF antenna and structural aircraft engineering, have to collaborate in a close way, to understand each other needs and challenges. A multidisciplinary approach has to be established. In this talk the technology development of structural integrated antennas for aircraft applications will be presented.