



Optical fibre on aircraft

When the light speed serves data transmission

As more and more electronic systems are installed on aircraft, the quantity of electrical cable is inclined to increase significantly. Aeronautical electrical installations have been for many years based on copper conductors which are firstly expensive in terms of weight and secondly, have some constraints in relation to their characteristics such as Electro-Magnetic Interferences (EMI) and bandwidth limitations. The introduction by Airbus of aluminium wiring allowed saving weight but had no better effects on the characteristic constraints.

Therefore, electrical installation designs introduced the optical fibre technology instead of copper cables for data signal transmissions. The use of optical fibre provides large benefits in terms of a large bandwidth capacity, EMI insensibility, complete electrical isolations, signal attenuations lesser than electrical cables and last but not least, lightweight compared to an electrical cable (4kg/km).



Stéphane BOUYSSOU
Aircraft Electrical Installation
Electrical Standard Items
Airbus Engineering

