

**All-weather sensors (lidar + radar) for Wake-Vortex hazards mitigation on Airport.** Agnes Dolfi-Bouteyre, Didier Goular, Christophe Planchat, , ONERA (France); Sophie Loaec, Ludovic Thobois, Jean-Pierre Cariou, Leosphere (France); Frederic Barbaresco, Philippe Juge, Fabrice Orlandi, Yves Ricci and Mathieu Klein, Thales Air Systems (France).

## **ABSTRACT**

RADAR and LIDAR sensors are complementary in terms of ambient weather conditions : X-band Radar performances are optimal under rainy conditions whereas Lidar performances are optimal in dry air. During SESAR XPo and XP1 trials in CDG airport, a multi-function (wake-vortex, weather) Electronic scanning X-band Radar (THALES), and a multifunction 1.5 micron Lidar with a 3D Scanner (Leosphere with Onera signal processing) have been used together to detect and follow aircraft wake vortices. These sensors were associated in an all-weather conditions system. Trials configuration is presented and test results are analysed.