QUESTION ITU-R 260/5[[1]](#footnote-1)

Coexistence analysis between foreign object debris detection systems operating in the frequency range 92 to 100 GHz and earth exploration satellite
service sensors in-band and in adjacent bands

(2019)

The ITU Radiocommunication Assembly,

considering

*a)* that foreign object debris (FOD) can severely injure airport or airline personnel and damage equipment;

*b)* that FOD can originate from personnel, airport infrastructure, the environment and the equipment operating on the airfield;

*c)* that an airport study showed that in one year, over 60% of the FOD items were made of metal, followed by 18% of the items being made of rubber;

*d)* that there is a need to detect FOD on airport surfaces to maintain safe airport operations;

*e)* that advanced technologies such as millimetre-wave radars are now available for improved FOD detection, including capabilities for continuous detection on runways and other aircraft movement areas;

*f)* that FOD radars must be able to detect an object whose size is as small as 3.1 cm high and 3.8 cm in diameter;

*g)* that aviation authorities provide guidance and specifications for procuring airport FOD detection equipment;

*h)* that sufficient contiguous bandwidth is available for radiolocation services in the frequency range 92-100 GHz;

*i)* that the technical and operational characteristics of FOD detection system need to be documented,

recognizing

*a)* that there is no regulatory priority between co-primary services without additional specific regulatory provisions contained in the RR;

*b)* that, in frequency bands above 71 GHz, in order to accommodate the emerging requirements of active services, sharing with passive services should be studied in accordance with Resolution **731 (Rev.WRC-12)**;

*c)* that appropriate measure and sharing criteria between co-primary active services should be also studied in accordance with Resolution **732 (Rev.WRC-12)**;

*d)* that for sharing and compatibility scenarios the protection criteria for the EESS (passive) is contained in Recommendation ITU-R RS.2017 and the protection criteria for EESS (active) is contained in Recommendation ITU-R RS.1166;

*e)* that the unwanted emission levels for the fixed service to protect Earth exploration-satellite service (EESS) (passive) operating in the band 86-92 GHz are specified in accordance with Resolution **750 (Rev.WRC-15)**,

decides that the following Question should be studied

what technical conditions are necessary for FOD detection and EESS (active)/EESS (passive) systems to ensure their coexistence when using a common frequency band or adjacent frequency bands?

further decides

1 that the technical and operational characteristics for FOD detection systems should be included in an ITU-R Recommendation;

2 that the results of the studies should also be included in an ITU-R Report;

3 that the work should be completed by 2027.

Category: S2

1. This Question should be brought to the attention of the International Civil Aviation Organization and the World Meteorological Organization. [↑](#footnote-ref-1)