



Air Pollution Caused By Aircrafts in LTO-number-Record Breaking Year 2016 at Istanbul Atatürk Airport

Orhan Sen and Onur Durmus
Turkey (seno@itu.edu.tr)

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Orhan Sen and Onur Durmus
Istanbul Technical University, Faculty of Aeronautics and Astronautics, Department of Meteorological Engineering, Maslak, Istanbul, Turkey. seno@itu.edu.tr

Abstract

2016 was a record breaking year in terms of LTO numbers at Istanbul Atatürk Airport. The days with maximum LTO (Landing- Take-off) numbers coincides with the beginning or end of national festival days.

In this study, air pollutant (HC, NO_x, CO, SO₂) quantities that are released as a result of LTO activities taking place at Atatürk Airport in 10-months-period of the year 2016 when LTO numbers reached peak point and emission quantities resulting from aircrafts on the days when maximum LTO numbers happened on a daily basis have been calculated with Tier 2 method. In Tier 2 method emission less than 935m (3000ft) of atmosphere during LTO activities related to airplane type without making domestic or international distinction and free from landing/ take-off point play an important role. This approach is used in calculating emissions that are being released to the atmosphere during LTO activities which have a maximum effect on air pollution by taking into account the fuel consumption of each airplane type and with the help of determined emission coefficients.

As a result of the calculations between 01.01.2016 and 25.10.2016 at Istanbul Atatürk Airport, 186.986 LTO cycle took place by passenger and cargo aircrafts. And 209.984 tones fuel were consumed. As a result of this fuel consumption 187,2 tones hydrocarbon (HC), 3263,9 tones nitrogen oxide (NO_x), 1626,5 tones carbon monoxide (CO) and 210 tones sulphur dioxide (SO₂) emission were released as air pollutants.

Keyword: LTO, Air pollution, Aircraft