**Integrated Terminal Weather System (ITWS) Microburst Detection Algorithm**
Technology #12290

**Applications**

A main application for this technology is as a software tool for air traffic control.

**Problem Addressed**

Microbursts present a strong danger to aircraft at low altitudes, primarily on final approach or shortly after departure and have been the cause of several fatal air carrier accidents.

**Technology**

The Integrated Terminal Weather System (ITWS) Microburst Detection Algorithm uses Terminal Doppler Weather Radar (TDWR) data to detect microbursts in the airport terminal area. The Microburst Detection algorithm identifies regions of strongly spreading winds near the ground, which are used for subsequent processing algorithms to determine specific impact of these events to runway approach and departure corridors. This algorithm enables air traffic controllers to determine the safest paths for incoming and departing aircraft.

**Advantages**

- Detects microbursts to improve aircraft safety in landing

**Categories For This Invention:**

Lincoln Laboratory  
Software (Copyright)  
Other (Software)  
Transportation  
Other (Transportation)

**Intellectual Property:**

Copyright Other

**Inventors:**

Timothy Dasey  
Steven Campbell  
Michael Donovan  
Michael Matthews
Publications:

A Shear-based Microburst Detection Algorithm for the Integrated Terminal Weather System (ITWS)  
American Meteorological Society  
1993

External Links:

Lincoln Laboratory  
https://www.ll.mit.edu/