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(54) **Title:** METHOD AND SYSTEM FOR DETECTING AIRCRAFT INDUCED WAKE TURBULENCE

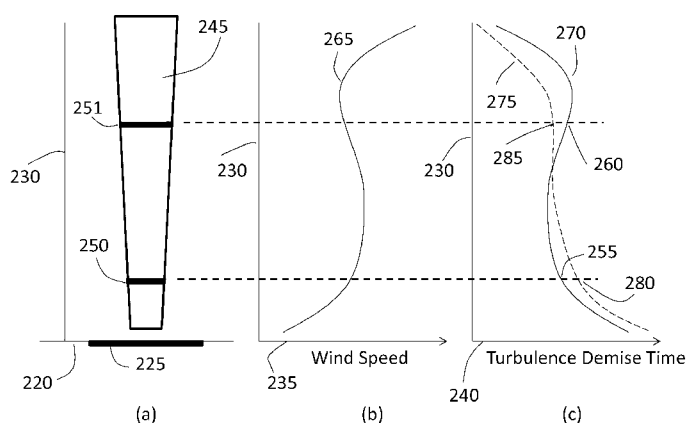


Figure 10

(57) **Abstract:** A method is disclosed for detecting atmospheric turbulence including aircraft induced wake turbulence and/or wind shear within an aperture associated with an aircraft approach or departure corridor around an airport. The method comprises transmitting into the aperture acoustic signals having a waveform suitable for pulse compression and receiving backscattered acoustic echoes of the acoustic signals from the atmospheric turbulence and/or wind shear. The method further includes processing the acoustic echoes in a matched filter receiver to provide a measure of the atmospheric turbulence and discriminating the aircraft induced demise time, being a time taken for the aircraft induced wake turbulence and/or wind shear to fall below a set threshold at least in the aperture. A system for detecting atmospheric turbulence including aircraft induced wake turbulence and/or wind shear associated with an aircraft approach or departure corridor around an airport is also disclosed.

