

Title (en)

APPARATUS AND METHOD FOR ASSISTING VERTICAL TAKEOFF VEHICLES

Title (de)

VORRICHTUNG UND VERFAHREN ZUR UNTERSTÜTZUNG VERTIKAL GESTARTETER FAHRZEUGE

Title (fr)

APPAREIL ET PROCÉDÉ D'ASSISTANCE DE VÉHICULES À DÉCOLLAGE VERTICAL

Publication

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Application

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Priority

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Abstract (en)

[origin: WO2014133488A2] According to one aspect of the present invention, a radar system is provided which accurately measures the surface profile in a wide sector beneath and forward of a helicopter, to aid low level transit and landing in poor visibility. This uses an electronic beam synthesis technique to form multiple beams directed at the area of interest, each measuring the distance to the first reflected signal received by each beam. These distances represent the profile of the ground and any objects on the ground. A processor then compares the measured profile with the ideal ground profile for safe landing. If the deviations from straight and level exceed the specified requirement for safe landing, or if sufficient rotor clearance is not detected, then a warning is given to the operator. A display will show the measured ground profile highlighting the unsafe regions, allowing the operator to seek a safe region to land. The novelty lies in the way the beams are formed to measure and display the ground profile and provide a warning system. This beam-forming technique is simpler and more cost effective than with a conventional phased array radar.

IPC 8 full level

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