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(54) Title: REAL-TIME SIMULATION SYSTEM OF THE EFFECTS OF ROTOR-WAKE GENERATED AERODYNAMIC LOADS OF A HOVER-CAPABLE AIRCRAFT ON THE AIRCRAFT ITSELF, AND METHOD THEREOF

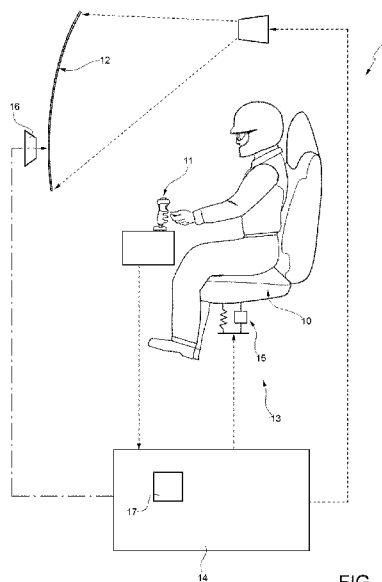


FIG. 1

(57) Abstract: A real-time simulation system (1) of the aerodynamic loads generated by the wake of a rotor (2) of a hover-capable aircraft (3) on the aircraft (3) itself is described, said system (1) comprising: a cockpit seat (10) for a pilot; a simulated control device (11) of the aircraft (3) able to receive a simulated command from the pilot to simulate a flight condition of the aircraft (3); simulation means (13) able to generate a simulated representation of the flight condition; and a processing unit (14) configured to receive as input a first signal associated with the command given via the control device (11) and to generate and output a second control signal for the simulation means (13) associated with the simulated aerodynamic loads. The processing unit (14) cyclically generates a vortex ring (30) with a radius (r), associates a number of control points (A, B, C and D) with the vortex ring (30), computes the velocity induced on the control points (A, B, C and D), moves and updates the vortex ring (30), and generates the second signal on the basis of the velocities induced on the control points (A, B, C and D) by the vortex rings (30).





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According to International Patent Classification (IPC) or to both national classification and IPC

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Minimum documentation searched (classification system followed by classification symbols)
 G09B G05D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

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C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|-----------|--|-----------------------|
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Further documents are listed in the continuation of Box C.
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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

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INTERNATIONAL SEARCH REPORT

Information on patent family members

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