ABSTRACT

LOADING PARAMETERS

The present application discloses a computer implemented method (4070) of determining a fuel allocation for an aircraft (1). The aircraft (1) comprises a first fuel source (302) adapted to contain a first fuel having a first fuel characteristic and a second fuel source (304) adapted to contain a second fuel having a second fuel characteristic, the second fuel characteristic being different from the first. The aircraft (1) further comprises one or more gas turbine engines (10) powered by fuel from the first and second fuel sources (302, 304). The gas turbine engines (10) each comprise a staged combustion system (64) having pilot fuel injectors (313) and main fuel injectors (314), the staged combustion system (64) being operable in a pilot-only range of operation and a pilot-and-main range of operation. The gas turbine engines (10) each comprise a fuel delivery regulator (306) arranged control delivery of fuel to the pilot and main fuel injectors (313, 314) from the first fuel source (302) and the second fuel source (304). The method (4070) comprises the following steps: obtaining (4072) a proposed mission description comprising a list of operating conditions for the gas turbine engines during the mission; obtaining (4074) nvPM impact parameters for the gas turbine engines (10), the impact parameters being associated with each operating condition of the proposed mission using compositions of fuel which include fuel from the first fuel source (302), fuel from the second fuel source (304), or a blend thereof; calculating (4076) an optimised set of one or more fuel characteristics for each flight condition of the proposed flight defined in the flight description based on the nvPM impact parameters; and determining (4078) a fuel allocation based on the optimised set of one or more fuel characteristics. Also disclosed is method (4080) of loading fuel onto an aircraft (1), a non-transitory computer readable medium, a fuel allocation determination system (5000), and an aircraft (1).

[Figure 34]