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(54) Title: HYBRID PROPULSION SYSTEM FOR ROAD VEHICLES

(57) Abstract

A hybrid propulsion system (100) for use in road vehicle operations, which propulsion system includes a power splitting mechanical transmission (108), suitably a three shaft epicyclic gearbox (117, 118, 119), for coupling to a tailshaft (115) of the vehicle; a first drive unit (105) arranged for regenerative operation and coupled to the power splitting mechanical transmission (108); a second drive unit (110) arranged for regenerative operation and coupled, independently of said first drive unit, to the power splitting mechanical transmission (108); a third drive unit (113) for coupling, in parallel to said power splitting mechanical transmission, to the tailshaft; and propulsion control means (122) for coordinating operation of the drive units in accordance with a plurality of predetermined modes corresponding to a driving cycle of the vehicle. Two forms of the invention are disclosed, being suited to non-transit and transit operations, respectively. Methods for the optimal control of the hybrid propulsion system of each form of the invention are also disclosed.

