

Title (en)
MULTIMODE ELECTROMECHANICAL VARIABLE SPEED TRANSMISSION APPARATUS AND METHOD OF CONTROL

Title (de)
MULTIMODALE ELEKTROMECHANISCHE STUFENLOSE GETRIEBEVORRICHTUNG UND VERFAHREN ZUR STEUERUNG

Title (fr)
APPAREIL DE TRANSMISSION À VITESSE VARIABLE ÉLECTROMÉCANIQUE MULTIMODE ET PROCÉDÉ DE COMMANDE

Publication
EP 3167206 A4 20170823 (EN)

Application
EP 15889564 A 20150515

Priority
• US 201514694881 A 20150423
• CN 2015079062 W 20150515

Abstract (en)
[origin: WO2016169075A1] A multi-mode electro-mechanical variable speed transmission, includes an input shaft (Input), an output system (Output), at least one planetary gear set having at least three branches each representing a co-axial rotating member, two electric machines (EM1, EM2) along with the associated controllers for the electric machines, and at least a clutch (CL). The first branch couples to the first electric machine (EM1) with a constant speed ratio, the second branch couples to the output system (Output) with a constant speed ratio, the third branch couples to the input shaft (Input) with a constant speed ratio, and the second electric machine (EM2) selectively couples to two different branches of the planetary gear set with two different constant speed ratios, respectively. Said multi-mode electro-mechanical variable speed transmission is capable of providing multiple operation modes including two electric drive modes and two power split operation modes. Different operation modes cover different speed ratio regimes and are suitable for different power requirements. At the mode switching point, the corresponding clutch is automatically synchronized. This avoids shock loads during operation mode switching. The transmission is capable of providing operations with at least a fixed output to input speed ratio.

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CPC (source: EP)
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Citation (search report)
• [X] US 2010210388 A1 20100819 - GROCHOWSKI EDWIN T [US], et al
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• [A] US 2006046886 A1 20060302 - HOLMES ALAN G [US], et al
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