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(54) Title: WIRELESS METHOD AND SYSTEM FOR BIDIRECTIONAL TRANSFER OF POWER BETWEEN A DC POWER
SOURCE AND AN ELECTRIC MOTOR-GENERATOR ROTOR

(57) Abstract: The present invention involves method and system for contactless bidirectional transfer of power between DC source (3700) and rotor coils of electric motor-generator by simultaneous bimodal capacitive and inductive power transfer of high frequency power signals from resonators (3545) stationary with respect to the motor-generator stator to resonators (3585) on the motor-generator rotor according to an adjustable transfer mode ratio at a variable resonant power signal oscillation frequency. Power from DC source is converted into high frequency power signals by high frequency continuous auto-adjusting bimodal stator transmitter-receiver modules under control of systems controller (3572) and provided to corresponding one or more high frequency stator resonators. High frequency power signals received by high frequency rotor resonators are converted in corresponding high frequency auto-adjusting bimodal rotor transmitter-receiver modules to electrical signals to provide to drive circuitry of induction coils on rotor.

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