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(54) **Title**: METHOD AND APPARATUS FOR REGULATING EXCITATION OF AN ALTERNATOR

(57) **Abstract**: A hybrid voltage regulator controls the voltage of three phases of alternating electricity produced by an alternator. A digital voltage regulator produces an average of the RMS voltage for each phase and produces an error value based on a ratio of the voltage to the frequency of the alternating electricity. The RMS voltage average and the error value are used to modify a voltage command designating a desired voltage level. The modified voltage command is processed by an analog voltage regulator that rectifies the alternator output voltage which then is averaged over a period of time. The resultant average voltage value is utilized to modify the voltage command to produce a regulated voltage command that determines a level of current to apply to excite the alternator.