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(54) **DRIVE CIRCUIT FOR INDUCTIVE POSITION TRANSDUCER SYSTEM**

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(57) **ABSTRACT**

An inductive position transducer system includes a drive circuit and an inductive position transducer with at least a first field generating coil. The drive circuit includes a resonant circuit portion and an amplifier portion. The amplifier portion comprises a current-driven single stage differential amplifier and is configured to provide an oscillating drive signal to the resonant circuit portion which results in a driving of the field generating coil (e.g., at a coil voltage which may be larger than a power supply voltage, such as over 2× larger). A controller may adjust a bias current that is provided to the amplifier portion to maintain the voltage across the field generating coil (e.g., at a specified voltage level). The amplifier portion may comprise CMOS transistors and may be fabricated on a chip (as part of a low-voltage CMOS integrated circuit) along with other portions of the inductive position transducer system.