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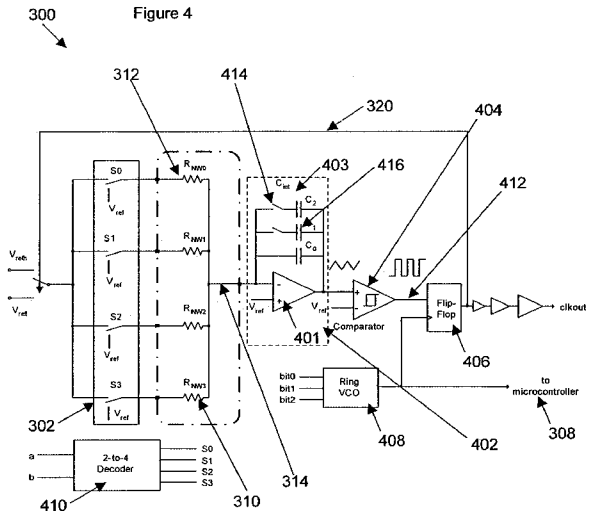
(54) **Title:** AN INTERROGATION CIRCUIT FOR A NANOWIRE SENSOR ARRAY AND A METHOD FOR INTERROGATING A NANOWIRE SENSOR ARRAY

Figure 4



(57) **Abstract:** An interrogation circuit for a nanowire sensor array and a method for interrogating a nanowire sensor array are provided. The circuit comprises a switch array connected to the nanowire sensor array for selectively connecting first ends of nanowire sensors of the nanowire sensor array to a reference voltage; an integration amplifier (IA) connected to second ends of the nanowire sensors at a first input of the IA and to the reference voltage at a second input of the IA, for generating an oscillating output signal clamped between first and second voltage values; wherein the switch array is further arranged for switching one of the nanowire sensors to be connected in a closed loop with the IA such that a current through said one nanowire sensor periodically charges and discharges an integration capacitor of the IA for determining a resistance of said one nanowire sensor from a frequency of the periodic charging and discharging.

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