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(54) **ION SHUTTLING SYSTEM WITH
COMPENSATION ELECTRODES FOR ION
TRAP**

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(57) **ABSTRACT**

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An ion shuttling system includes a plurality of first electrodes connected to a system configured to selectively provide an ion movement control voltage to each electrode of the plurality of first electrodes, a voltage source configured to provide one or more compensation voltages, a plurality of compensation electrodes comprising a plurality of compensation electrode pairs, where each compensation electrode pair of the plurality of compensation electrode pairs is associated with one or more different first electrodes of the plurality of first electrodes, and a plurality of switches, where each switch of the plurality of switches is connected at a respective first node to a compensation electrode of the plurality of compensation electrodes and is configured to selectively connect the respective compensation electrode to the voltage source.

