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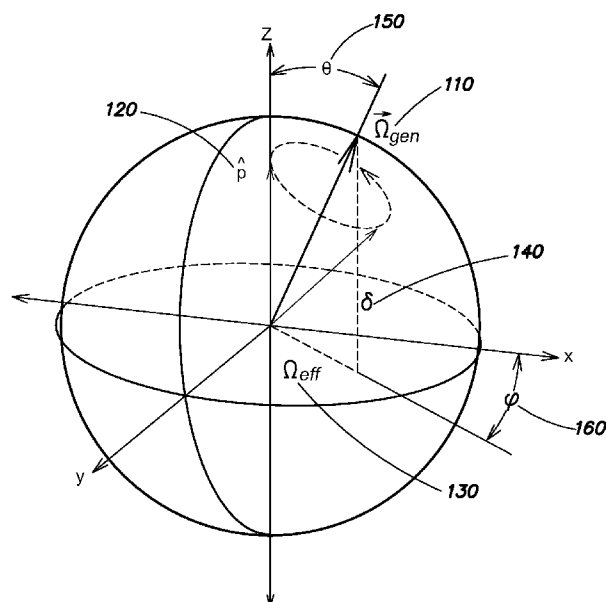


FIG. 1

(57) Abstract: Methods and apparatus that provide for iner-
tial sensing. In one example, a method for inertial sensing in-
cludes trapping and cooling a cloud of atoms, applying a first
beam splitter pulse sequence to the cloud of atoms, applying
one or more augmentation pulses to the cloud of atoms sub-
sequent to applying the first beam splitter pulse sequence, ap-
plying a mirror sequence to the cloud of atoms, applying a
one or more augmentation pulses to the cloud of atoms sub-
sequent to applying the mirror sequence, applying a second
beam splitter pulse sequence to the cloud of atoms sub-
sequent to applying the second augmentation pulse, modulat-
ing at least one of a phase and an intensity of at least one of
the first and the second beam splitter pulse sequences, per-
forming at least one measurement on the cloud of atoms, and
generating a control signal based on the at least one measure-
ment.



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