TITLE:

A MAGNETOMETER SYSTEM AND METHOD

ABSTRACT

The present disclosure provides a magnetometer for measuring a magnetic field *B* in the vicinity thereof. The magnetometer includes a vapor cell comprising atomic vapor; an optical processor for receiving a light beam and directing said light beam, as a probe light beam, to enter the vapor cell with a certain predetermined intensity I_1 and a certain predetermined polarization state P_1 to serve for interacting with at least one type of Alkali-like atoms in the atomic vapor of the vapor cell, for probing a Larmor frequency of precession thereof; and a detector for detecting the light beam after interaction with the atomic vapor to generate signals/data indicative of said Larmor frequency. The optical processor includes an optical depolarizer and a polarizer arranged respectively successively (e.g., not necessarily consecutively) with respect to a propagation direction of said light beam, along a propagation path of the light beam through the optical processor.

Fig. 1