

Abstract Submitted  
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**A compact fiberized alkali-vapor atomic magnetometer** ELENA ZHIVUN, BRIAN PATTON, Department of Physics, UC Berkeley, CHRIS HOVDE, Southwest Sciences, Inc., DMITRY BUDKER, Department of Physics, UC Berkeley — Alkali-vapor atomic magnetometers are among the world's most sensitive magnetic-field measuring devices, with demonstrated precisions [1] better than  $1\text{fT}/\sqrt{\text{Hz}}$  when operated in the SERF regime. All-optical magnetometers operating at finite fields require synchronous optical pumping to reinforce the precessing atomic spin polarization. Here describe a synchronously pumped magnetometer in which the vapor cell is coupled to the pump and probe optics solely by optical fibers. Tests of this device at finite field ( $\sim 10$  mG) and at Earth's field will be presented.

[1] H. B. Dang, A. C. Maloof, and M. V. Romalis, Appl. Phys. Lett. **97**(15), 151110.

Elena Zhivun  
Department of Physics, UC Berkeley

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