

Abstract Submitted  
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**Fiber Alkali Vapor Laser** R. AYACHITULA, N. HAFNER, R.J. KNIZE, US Air Force Academy — Free-space optically pumped alkali lasers have demonstrated high efficiency, good beam quality and scalability to high powers. Fibers have the potential to guide such high power beams for long distances. Combining these two technologies, we demonstrate an optically pumped alkali vapor laser in a hollow fiber where rubidium and methane have been allowed to migrate throughout the hollow core fiber. By end-pumping rubidium in our fiber at the 780 nm,  $5S_{1/2} \rightarrow 5P_{3/2}$  D2 line, create a population inversion between the  $5P_{1/2}$  and  $5S_{1/2}$  states from state-mixing via methane buffer gas and lase on the 795 nm D1 line.

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