

Abstract Submitted
for the MAR07 Meeting of
The American Physical Society

Major Improvements in Photorefractive Two-Beam Coupling Using Synergistically Doped Potassium Niobate DEAN EVANS, GARY COOK, MOHAMMAD SALEH, Air Force Research Laboratory — Significant improvements have been made in photorefractive potassium niobate by substitutionally replacing potassium ions in the host lattice with ions of appropriate size, charge, and coordination number. The modified lattice accounts for the enhanced optical and electrical properties, as well as a substantial increase in trap density ($>30X$'s). These material modifications lead to a considerable improvement in photorefractive two-beam coupling efficiency (i.e. photorefractive gain). Two-beam coupling via photorefractive gratings has been demonstrated in both transmission and self-pumped reflection geometries.

Dean Evans
Air Force Research Laboratory

Date submitted: 20 Nov 2006

Electronic form version 1.4