Abstract Submitted
for the DAMOP15 Meeting of
The American Physical Society

Optoelectronic oscillator using an acousto-optic delay line[1] SIN HYUK YIM, TAE HYUN KIM, SANGKYUNG LEE, HEE SOOK ROH, KYU MIN SHIM, Agency for Defense Development — We demonstrate an optoelectronic oscillator (OEO) based on an acousto-optic modulator (AOM). The free spectral range between the modes is a function of the total loop length of the OEO, which is dependent on the propagation time of the acoustic wave through the AOM. By using the huge difference in the magnitude between the speed of light and the acoustic velocity in the AOM, we can extend the effective loop length of the OEO up to 3.8 km. We have measured phase noise of the OEO. Further developments will be made by using a dual-loop configuration.

[1]Agency for Defense Development

Sin Hyuk Yim
Agency for Defense Development

Date submitted: 20 Jan 2015 Electronic form version 1.4