

# ABSTRACT

## A Dual Harmonic-Wavelength Split-Frequency Laser

The ideal source for air-turbulence-corrected distance-measuring interferometry is a single laser that generate overlapping beams at two widely separated wavelengths  $\lambda_1$  and  $\lambda_2$ . At least one of the wavelengths, as well as the wavelength ratio, must be known to high degrees of accuracy. Furthermore, at each wavelength, the laser should produce a pair of orthogonally polarized frequencies with a frequency splitting that is adjustable over the range of approximately 0.5 MHz to 20 MHz to facilitate AC interferometric distance measurements with a variety of measurement-mirror velocities.

(Figure 2)