

## LOCAL OSCILLATORS

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### Introduction

There are currently two independent local oscillator development programs. The first (see below) is a photonic local oscillator, which involves beating two IR lasers together to produce a mm-wave or submm-wave phase-locked difference frequency. The second is a more conventional system, involving frequency multipliers. If the photonic scheme is successful, it offers considerable savings in cost, reliability and complexity to the MMA project; however, it is as yet an unproven system and so NRAO is currently pursuing both approaches in parallel.

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- 1. Photonic Local Oscillator System**
  - 2. Mm-wave Multiplier Local Oscillator System**
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