MMA Project Book, Chapter 7

LOCAL OSCILLATORS

Darrel Emerson Last revised May 27 1998

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.

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