

Abstract Submitted
for the 4CF12 Meeting of
The American Physical Society

An ALMA and ATCA Molecular Line Survey toward Centaurus A JUERGEN OTT, National Radio Astronomy Observatory, DAVID MEIER, MARK MCCOY, New Mexico Institute of Mining and Technology, SEBASTIEN MULLER, Chalmers University of Technology, Onsala Space Observatory, ALISON PECK, VIOLETTE IMPELLIZZERI, National Radio Astronomy Observatory, FABIAN WALTER, Max-Planck-Institut fuer Astronomie, SUSANNE AALTO, Chalmers University of Technology, Onsala Space Observatory, CHRISTIAN HENKEL, Max-Planck-Institut fuer Radioastronomie, SERGIO MARTIN, European Southern Observatory, PAUL VAN DER WERF, Leiden University, ILANA FEAIN, CSIRO Astronomy and Space Science, CRYSTAL ANDERSON, New Mexico Institute of Mining and Technology — We present Atacama Large Millimeter/submillimeter Array and Australia Telescope Compact Array data of molecular absorption lines toward the bright central core of Centaurus A. The line of sight crosses the prominent dust lane and continues through the disk and eventually through gas that may be very close to the central supermassive black hole. The goal of our the survey is to determine the physical conditions of the gas via analyses of molecular line tracers including molecular abundances and excitation conditions that are sensitive to changes in temperature, density, ionization, and shocks. This study allows us to derive the physical conditions of each absorption line complex and allows us to define the main process shaping its environment. We present a first analysis of our data in the 13, 7, 3, and 1mm wavebands.

Juergen Ott
National Radio Astronomy Observatory

Date submitted: 21 Sep 2012

Electronic form version 1.4