

M31 Pixel Lensing

Dr. Sebastiano Calchi Novati

novati@sa.infn.it

University of Salerno

Abstract: On behalf of the PLAN collaboration I discuss the results of the M31 pixel lensing campaign carried out at the 152cm Cassini telescope (Osservatorio Astronomico di Bologna, Italy). I report the detection of two microlensing candidates. In particular, the microlensing nature of one of the two events, OAB-N2, is strongly supported by supplementary data kindly made available to us by the WeCAPP collaboration. I discuss the expected microlensing signal based on a full Monte Carlo simulation of the experiment and an efficiency analysis of the selection pipeline. The observed rate and event characteristics turn out to be in agreement with the expected lensing signal from the M31 stellar populations. However, the available data do not allow us to exclude MACHO signal. Indeed, on the basis of a thorough analysis of both the event source and the light curve characteristics, MACHO lensing looks the preferred explanation for the event OAB-N2.