

Panel# : -1 ProposalID : entityId_-1174932800

2010.2

Title : REAL: Polarisation monitoring of B0218+357 at 95 GHz

Astronomical Category : Cosmology and the High Redshift Univers

PI Name : Andy Biggs ARC : NONALMA Institution : European Southern Observatory Date Submitted : ---
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☒ Standard ☐ Large ☐ Target Of Opportunity

☐ Continuation ☐ Resubmission Related Proposals : ☐ Student/PhD

Stringency : PEL : Atmos.Quality Needed : ☐ A ☐ B ☐ C ☐ No grade ☐ SB's Done

Abstract The gravitational lens system B0218+357 has long been described as one of the best, if not the best, for determining the Hubble constant via a measurement of time delay between the light travel times of the two lensed images of a quasar at $z \sim 1$. The current determination of the time delay is 10.5 ± 0.4 days (95% confidence) was measured using VLA 15-GHz data taken in 1996/1997 and together with lens models results in $H_0 = 70\text{--}80$ km/s/Mpc. Although the lens model has improved considerably since 1997, the time delay has not and contributes significantly to the error budget of H_0 . We propose to measure the time delay using ALMA at a frequency of ~ 95 GHz, taking advantage of the expected greater intrinsic variability at this much higher frequency. Due to the difficulties in absolute flux calibration we will concentrate on producing light curves in

#Science Goals : 1

Total Time : 0.0 h

☐ Band 1 ... ☐ Band 2 ... ☒ Band 3 ... 0.0h ☐ Band 4 ... ☐ Band 5 ...
☐ Band 6 ... ☐ Band 7 ... ☐ Band 8 ... ☐ Band 9 ... ☐ Band 10 ...

12m Array

Max Data Rate : 0.0 MB/s Data Volume : 0.0 GB

☐ Joint ☒ Synthesis ☐ +Mosaic ☐ OTF-SD ☐ SubArray
☐ Line ☐ +polarization ☒ Continuum ☒ +polarization

<Not Available Yet>

ACA 7m Array

Max Data Rate : 0.0 MB/s Data Volume : 0.0 GB

☐ Joint ☐ Synthesis ☐ +Mosaic ☐ OTF-SD ☐ SubArray
☐ Line ☐ +polarization ☒ Continuum ☒ +polarization

<Not Available Yet>

ACA Total Power

Max Data Rate : 0.0 MB/s Data Volume : 0.0 GB

☐ Joint ☐ Synthesis ☐ +Mosaic ☐ OTF-SD ☐ SubArray
☐ Line ☐ +polarization ☒ Continuum ☒ +polarization