

V112c

## **From ALMA Observation Preparation to Data Quality Assurance**

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The ALMA observatory will strive to observe and reduce the data in a timely fashion to achieve the science goals of a given project, according to their required sensitivity and resolution. Unlike other ground-based radio observatories, ALMA is pioneering the way data is handed over to the user by providing comprehensive data quality assessments and calibrated datasets. Here it will be described the workflow from the observation (scheduling block) preparation to the data reduction and the ALMA quality assurance concept, and in which manner interaction with the PI occurs during the different phases.

The goal of ALMA Quality Assurance (QA) is to deliver the PI a reliable final data product that is calibrated to the desired accuracy and largely free of calibration or imaging artifacts. This is especially important for Cycle 0, where ALMA is in some aspects not fully optimized. The QA process analysis includes the identification and correction of problems with the system as well as ill-effects due to the environmental conditions. Furthermore, it will also include the calibration of the data and imaging, including the merging of data taken with different configurations. The multi-layered Quality Assurance approach is separated into the following phases: QA0: At the time of data acquisition, QA1: Observatory-Task quality assurance, QA2: Data Reduction, and QA3: Post Data reduction. QA0, 1 and 2 stages are handled by ALMA Operations in collaboration with the ARCs, and QA3 is responsibility of the ARC.