V124b Current Status of ALMA Quality Assurance (AQUA) System 1

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ALMA quality assurance (AQUA) system is designed for managing ALMA observation data and visualize the quality of both observations and final products of imaging. AQUA provides four distinct phases, named QA0 to QA3, in the quality assurance (QA) process. QA0 ensures that the observation has been performed with acceptable weather condition and instrument performance. The overall system performance and long-term monitoring of calibrators are regularly checked in QA1. AQUA scores calibrations and the final science-ready data will be assessed in terms of the requested sensitivity and spatial resolution in QA2. Any defects found in the delivered data package by the Principal Investigators (PIs) are reported in QA3 and ask for investigation and re-observation if necessary. AQUA system has been partially introduced in cycle 3 and the results of QA0 is provided for PIs in the AQUA. and AQUA QA2 will be open in cycle 4 in conjunction with the pipeline WebLog. The life cycle of the ALMA observation and QA are well defined between Scheduling Blocks (SB) generation and the data delivery including user feedback. AQUA manages and controls the status of all ALMA data and provides any information regarding data quality found in the observation and data reduction or special treatment made for improving data quality or avoiding known issues/problems. The currently operating application and material such as project tracker, pipeline WebLog, and online softwares used in the observation will be integrated into AQUA as one system in the future.