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Title: SKA Imaging Pipeline

Abstract

The "Big Data" SKA problem presents itself at the Science Data Processing (SDP) stage as processing requirements need to manage data cubes measuring up to exabytes in size. The proposed image deconvolution techniques for the SKA require major and minor cycles. Major cycles are essential to correct for errors introduced by approximations in previous minor cycles. However these introduce a challenging problem for deconvolving massive data cubes where data cannot be decimated imposing unfeasible communication and storage requirements. In this talk these challenges are described, and a stream based imaging pipeline based on major and minor cycles is presented. In addition an approach to distribute computations for managing the processing aspects of very large data cubes will also be presented and discussed.