A MODIFIED ALGORITHM FOR CLEANING WIDE-FIELD MAPS WITH EXTENDED STRUCTURES

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ABSTRACT   A simple but effective modification to the conventional CLEAN algorithm is suggested. This modification ensures both stability and speed when CLEAN is applied to maps containing a mixture of point sources and extended structures. The method has been successfully applied to the recently-completed sky survey at 34.5 MHz. This survey was made using the Gauribidanur T array (GEETEE) in 1-D aperture synthesis mode. Since in this case the 'dirty beam' (point spread function) cannot be directly computed, a method to obtain this is discussed in detail. The results of this deconvolution procedure have been encouraging in terms of reduced computing time and improved dynamic range in our maps. This algorithm should find wider application in deconvolving maps which have both extended structures and point sources.

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