

COMMENTS ABOUT SGP-MEMO 34  
W. Brouw - June 23, 1983

1. Reliability cannot be checked against AIPS, but only between different Pipeline maps. Differences between AIPS and Pipeline maps will always exist, partly due to the slight difference in gridding procedure and partly due to principal arithmetic differences between AP and VAX (word length, rounding-off system). Differences between (reliable) Pipeline maps and AIPS maps are, of course, of no consequence at all as long as the beams used in e.g. CLEAN are made on the same machine. However, even if they are made on different machines the inherent limited precision in a 16-bit fixed point beam is probable much worse.
2. Flagging needs a user interface. GRIDDER has already extended flagging incorporated although not a point-to-point basis.
3. CLEANING: I am sorry I have not been able to program this as yet, but I understand that Bob Payne is progressing. I would like to stress that it is possible (see 5) and worthwhile to be able to clean several maps at the same time in the TM, to further enhance throughput.
4. Sizes: Map size is not the most important criterion in defining whether a size is "painful". A 2048x2048 map will always be fast. A correct 2048x4096 map will always be fast. Here correct means 2 points per beam, hence a UV plane filling of 25%. A 4096x4096 map with an output size of say 4000x2000 will always be fast; this can be very handy, and not more costly than a 2048x2048 map, since it will get rid of aliases for you.

I agree that MOSAIC-making is a good solution. As you know GRIDDER will produce many small maps (even with different centers) simultaneously from the same data set. Optimal use will include cleaning which can be done on all these maps simultaneously as well.

5. Subtraction: Gridder accepts two lits of source components. One will subtract components from the raw data, the other from gridded data. The first is perfect, the second will work very fast in a clean environment, since you do not have to go back to the original data. The number of components is limited only by the available AP core, and is at least 10,000 components (4 numbers per component). It is well tested, but user interface implementation has been waiting on the standard VLA source table definition.

Component subtraction works at the right frequency for channel maps, and at the right map position (including n-coordinate) for mosaic maps.

Subtraction of maps can just as well be done in the display system, since in GRIDDER it would also involve a read of the map to be subtracted.