Summary of discussion on RGM taken in 2007 August run (HS, CDD)

   Six RGM files were prepared for the run, using CRL618 (relatively weak point source), Mars (strong point source), and W3IRS5 (extended brighter source). RGM file contains 5 columns, namely, x, y, gain, flag, gain error. If values on the flag column are 1 or 2 (not zero), that means these pixels are flagged.

   In the six RGM files, we found 220 pixels were always sensitive. We noticed the RGM files created from W3IRS5 data show some additional flagged pixels. We decided not to flag these pixels that are mostly found in a specific file 39697, because the file shows the uncommon large drift in rows 3 and 4 on the H array. (Bright sources may cause extra noise on top of the usual detector noise when pointing is drifting during the scan, or the atmospheric transmission is changing. We found a faint source is a good one for pixel flagging.) In addition to the 220 pixels, we decided to save those pixels that were flagged only on the W3IRS5 RGM files. In the end, we chose 245 pixels in total.

   The final RGM for the run were created by taking median of all six RGM files, because this would be the safest/best RGM we can get. The median of the "gain" of final RGM falls on very close to 1. First five figures below show the distribution of the gain values of the sensitive 245 pixels. All of the plots have a kind of tail stretching towards the lower values. In addition to these plots, distributions of individual sources' RGM / all six files median are attached (last three plots). CRL618 median /all six median and W3IFS5 median /all six median agree within 6%. Mars median/all six agrees within 2%.

Median of RGM using W3IRS5
(pixels once/twice flagged are excluded)

Median of RGM using W3IRS5
(pixels one/twice flagged are included)

Median of RGM using Mars

CRL618 median / all six median

of pixels

crl618 median / all six median

Mars median / all six median

of pixels

mars median / all six median

W3IRS5 median / all six median

of pixels

w3irs5 median / all six median