

Figure 1: CASA SKA simulation and CASA-generated dirty image of two 1 Jy point sources with 75' separation located at R.A.: 0<sup>h</sup>0<sup>m</sup>0.1<sup>s</sup>, Dec.:28<sup>d</sup>0<sup>m</sup>1<sup>s</sup> and R.A.: 0<sup>h</sup>0<sup>m</sup>0.1<sup>s</sup>, Dec.:26<sup>d</sup>45<sup>m</sup>10<sup>s</sup>, without Cortes beam model corruption of visibilities. Simulation:  $N_a = 50$ , same as in previous progress reports; image displayed, and brightness-contrast colormap adjustments with casaviewer; colormap used: 'isophotes'.

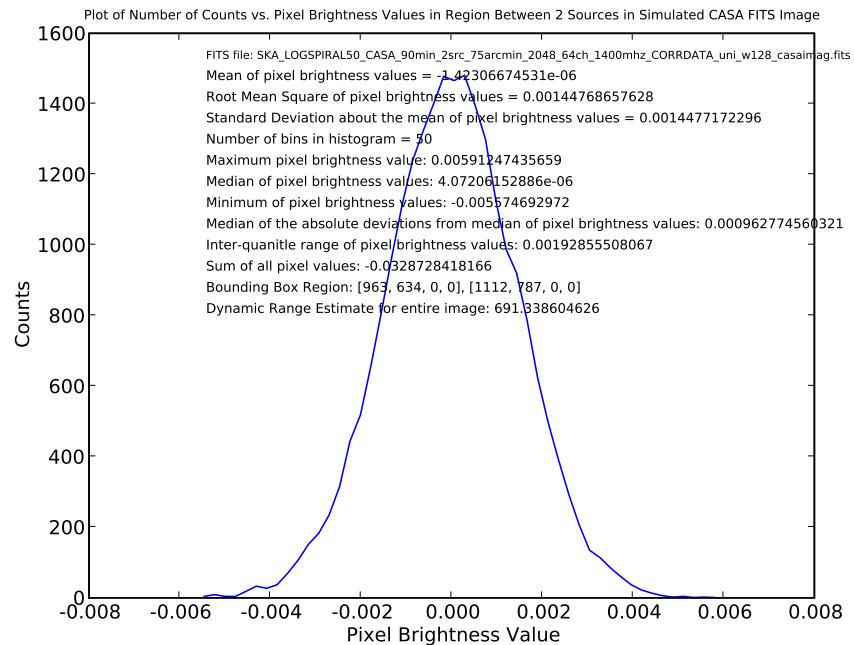


Figure 2: Line plot of counts vs. pixel brightness value for a specified bounding box region (bottom left corner = [963,634,0,0], top right corner = [1112,787,0,0]) between but not including the two point sources in Fig. 1. Statistical measures calculated within the bounding box region are included in the plot. The dynamic range estimate is for the entire image and is taken as the ratio of the brightest (largest) positive pixel brightness value in the image to the rms of pixel brightness values in the bounding box region.

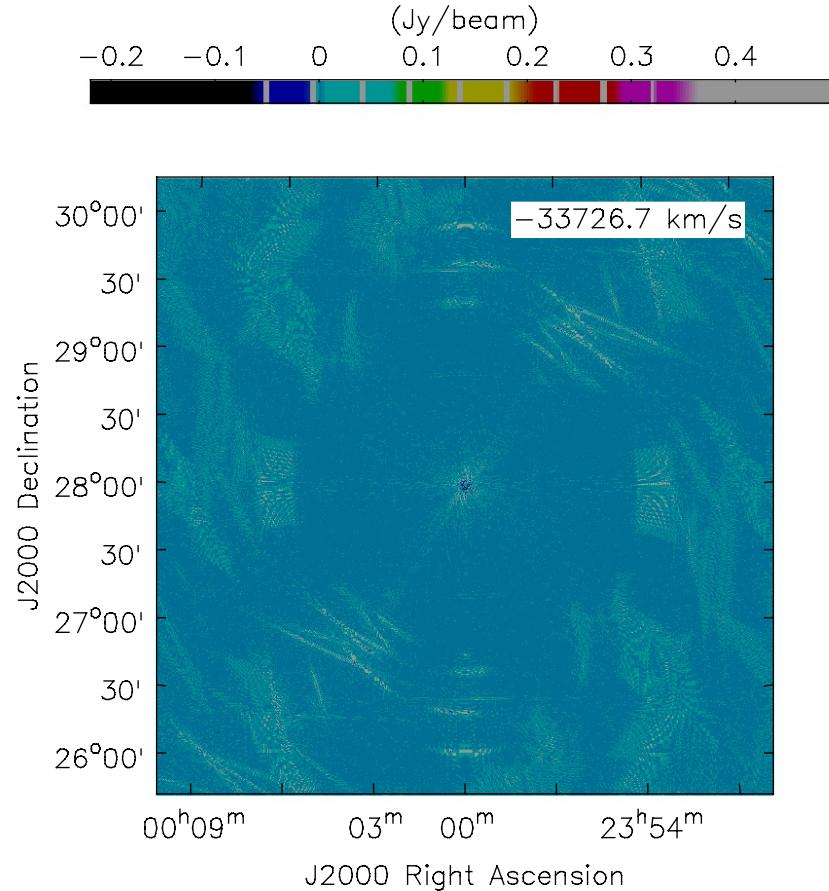


Figure 3: CASA-Meqtrees SKA simulation and CASA-generated dirty image of two 1 Jy point sources with 75' separation located at R.A.:  $0^h0^m0.1^s$ , Dec.: $28^d0^m1^s$  and R.A.:  $0^h0^m0.1^s$ , Dec.: $26^d45^m10^s$ , with visibilities corrupted by Cortes beam model (using Meqtrees) without pointing errors. Simulation:  $N_a = 50$ , same as in previous progress reports; image displayed and brightness-contrast colormap adjustments with casaviewer; colormap used: 'isophotes'.

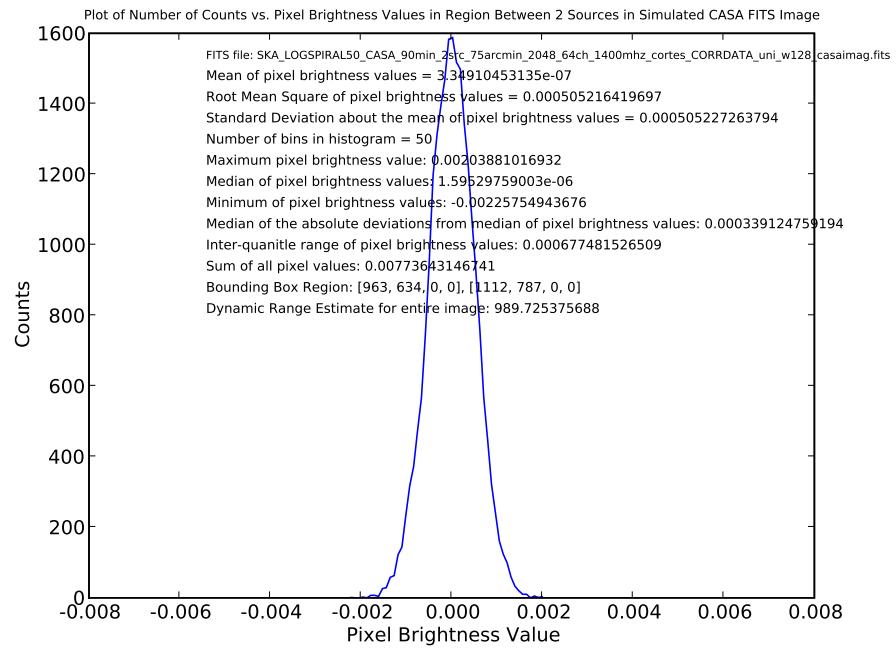


Figure 4: Line plot of counts vs. pixel brightness value for a specified bounding box region (bottom left corner = [963,634,0,0], top right corner = [1112,787,0,0]) between but not including the two point sources in Fig. 3. Statistical measures calculated within the bounding box region are included in the plot. The dynamic range estimate is for the entire image and is taken as the ratio of the brightest (largest) positive pixel brightness value in the image to the rms of pixel brightness values in the bounding box region.

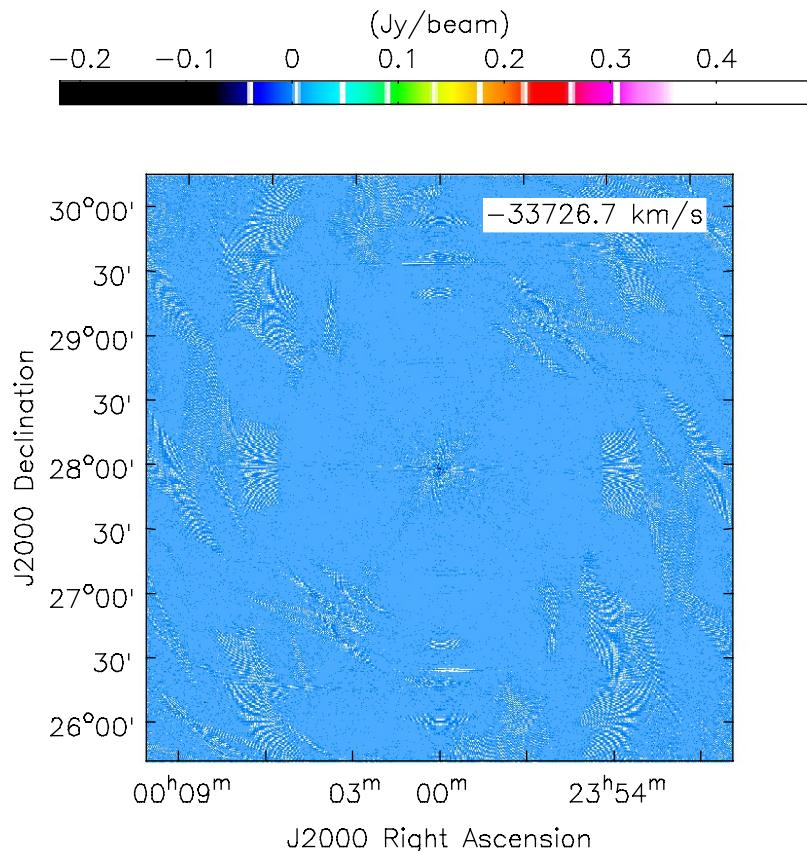


Figure 5: CASA-Meqtrees SKA simulation and CASA-generated dirty image of two 1 Jy point sources with  $75'$  separation located at R.A.:  $0^{\text{h}}0^{\text{m}}0.1^{\text{s}}$ , Dec.: $28^{\text{d}}0^{\text{m}}1^{\text{s}}$  and R.A.:  $0^{\text{h}}0^{\text{m}}0.1^{\text{s}}$ , Dec.: $26^{\text{d}}45^{\text{m}}10^{\text{s}}$ , with visibilities corrupted by Cortes beam model (using Meqtrees) with pointing errors ( $l_{\text{offset}} = 0.00172 \text{ rad} = 5.919'$ ,  $m_{\text{offset}} = 0.0004 \text{ rad} = 1.416'$ ). Simulation:  $N_a = 50$ , etc. (same as in previous figures); image displayed and brightness-contrast colormap adjustments with casaviewer; colormap used: 'isophotes'.

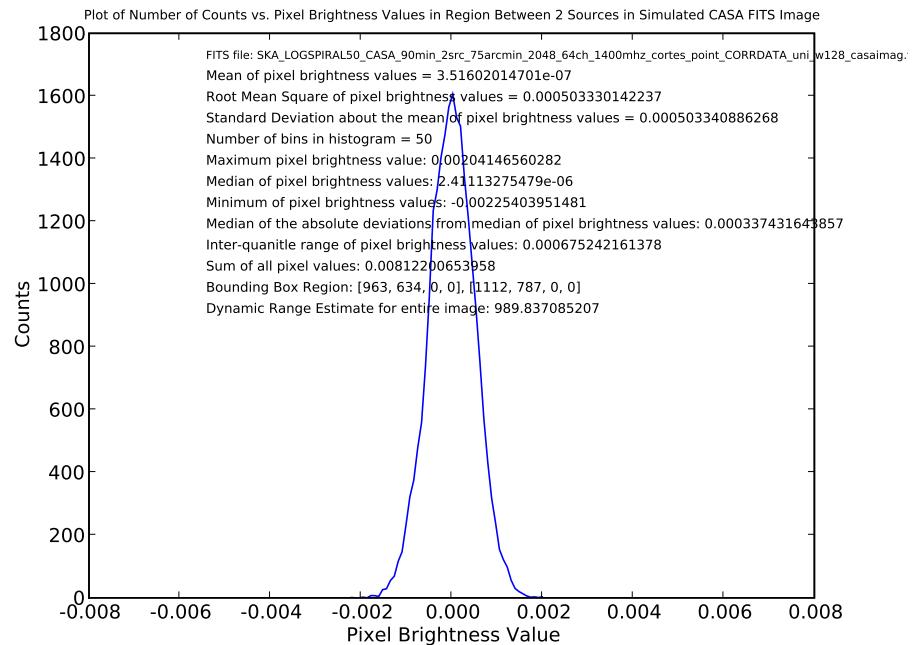


Figure 6: Line plot of counts vs. pixel brightness value for a specified bounding box region (bottom left corner = [963,634,0,0], top right corner = [1112,787,0,0]) between but not including the two point sources in Fig. 5. Statistical measures calculated within the bounding box region are included in the plot. The dynamic range estimate is for the entire image and is taken as the ratio of the brightest (largest) positive pixel brightness value in the image to the rms of pixel brightness values in the bounding box region.

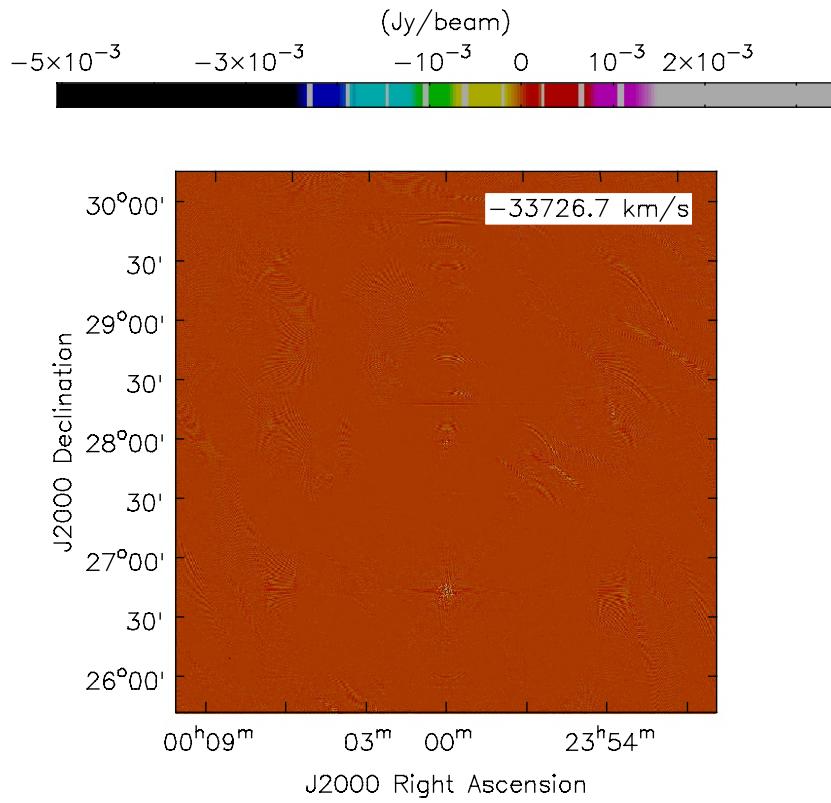


Figure 7: CASA-Meqtrees SKA simulation and CASA-generated dirty image resulting from subtracting image from CASA-Meqtrees simulation with visibilities corrupted by Cortes beam and no pointing errors from image from CASA-Meqtrees simulation with visibilities corrupted by Cortes beam model and pointing errors.

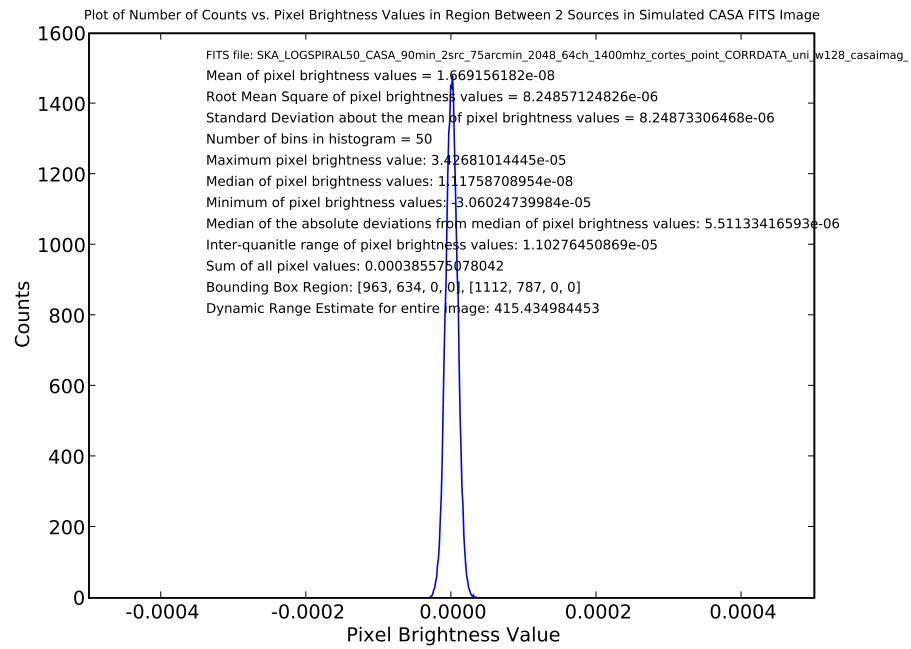


Figure 8: Line plot of counts vs. pixel brightness value for a specified bounding box region (bottom left corner = [963,634,0,0], top right corner = [1112,787,0,0]) between but not including the two point sources in Fig. 7. Statistical measures calculated within the bounding box region are included in the plot. The dynamic range estimate is for the entire image and is taken as the ratio of the brightest (largest) pixel brightness value in the image to the rms of pixel brightness values in the bounding box region.

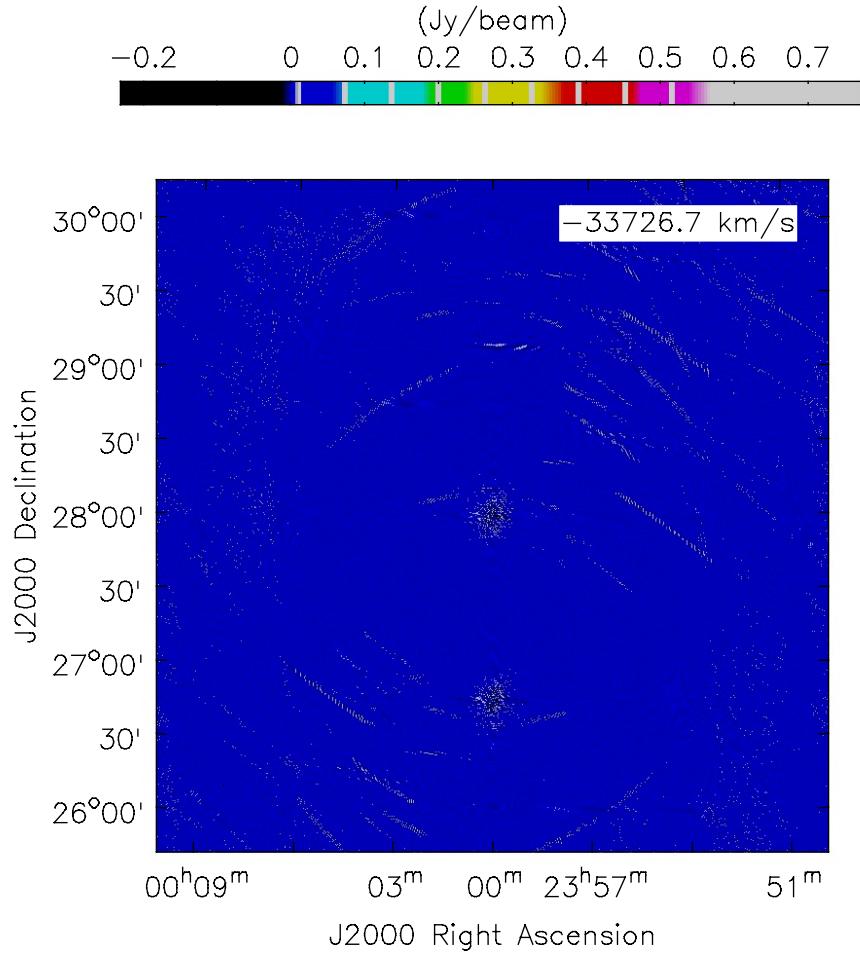


Figure 9: CASA SKA simulation and CASA-generated dirty image of two 1 Jy point sources with 75' separation located at R.A.:  $0^h0^m0.1^s$ , Dec.: $28^d0^m1^s$  and R.A.:  $0^h0^m0.1^s$ , Dec.: $26^d45^m10^s$ , without Cortes beam model corruption of visibilities. Simulation:  $N_a = 75$ , same as in previous progress reports; image displayed and brightness-contrast colormap adjustments with casaviewer; colormap used: 'isophotes'.

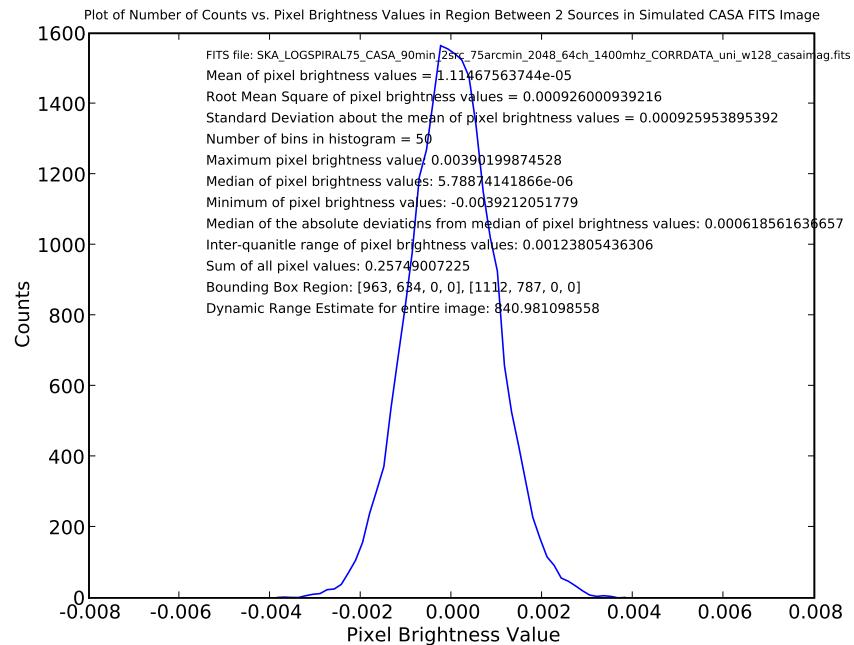


Figure 10: Line plot of counts vs. pixel brightness value for a specified bounding box region (bottom left corner = [963,684,0,0], top right corner = [1112,787,0,0]) between but not including the two point sources in Fig. 9. Statistical measures calculated within the bounding box region are included in the plot. The dynamic range estimate is for the entire image and is taken as the ratio of the brightest (largest) positive pixel brightness value in the image to the rms of pixel brightness values in the bounding box region.

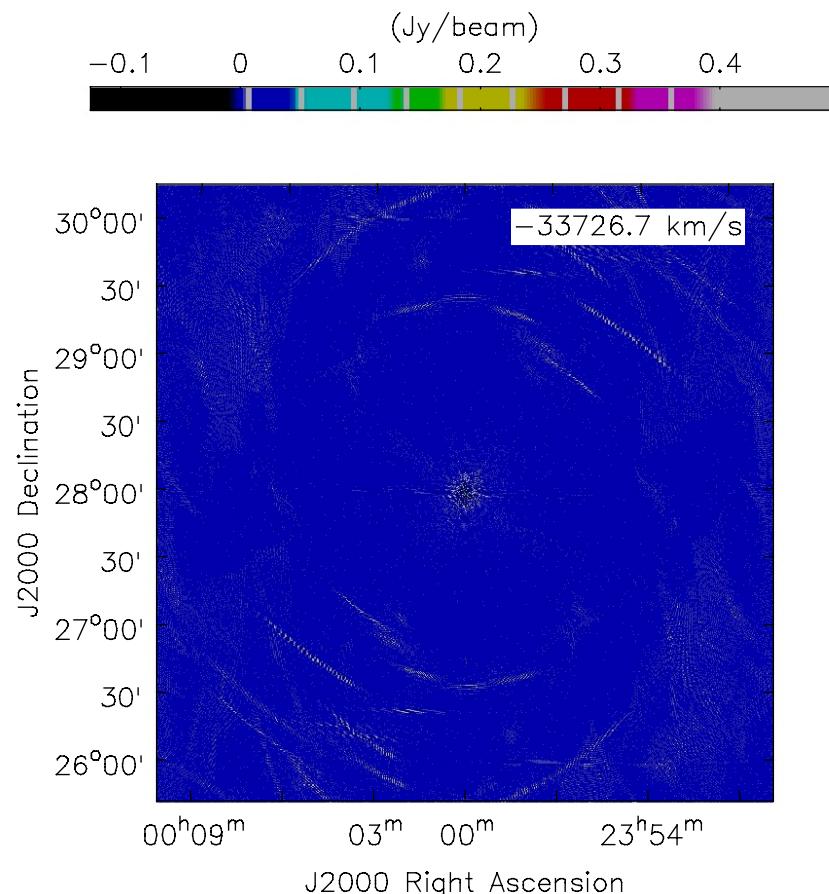


Figure 11: CASA-Meqtrees SKA simulation and CASA-generated dirty image of two 1 Jy point sources with 75' separation located at R.A.:  $0^{\text{h}}0^{\text{m}}0.1^{\text{s}}$ , Dec.: $28^{\circ}0^{\text{m}}1^{\text{s}}$  and R.A.:  $0^{\text{h}}0^{\text{m}}0.1^{\text{s}}$ , Dec.: $26^{\circ}45^{\text{m}}10^{\text{s}}$ , with visibilities corrupted by Cortes beam model (using Meqtrees) without pointing errors. Simulation:  $N_a = 75$ , same as in previous progress reports; image displayed and brightness-contrast colormap adjustments with casaviewer; colormap used: 'isophotes'.

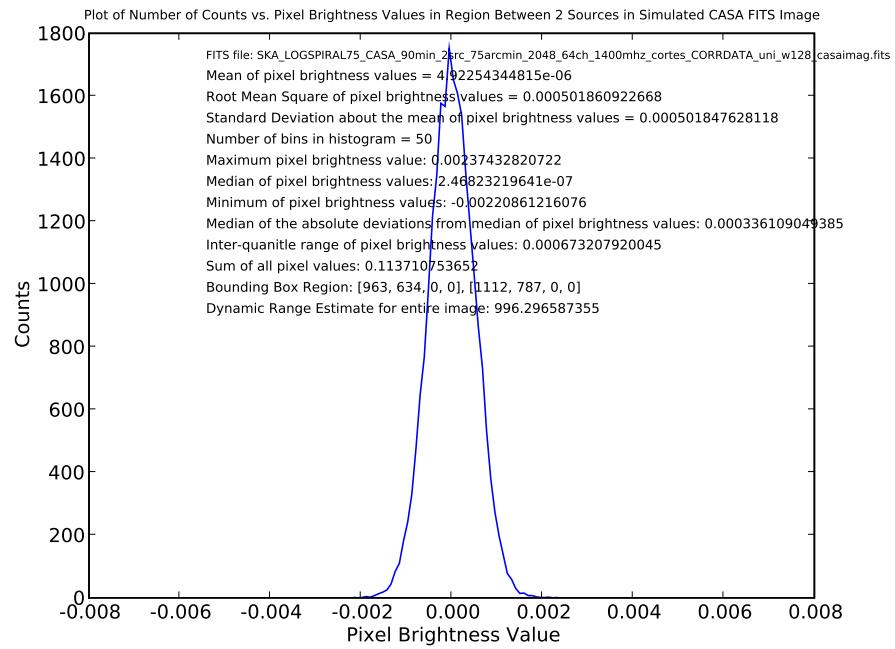


Figure 12: Line plot of counts vs. pixel brightness value for a specified bounding box region (bottom left corner = [963,634,0,0], top right corner = [1112,787,0,0]) between but not including the two point sources in Fig. 11. Statistical measures calculated within the bounding box region are included in the plot. The dynamic range estimate is for the entire image and is taken as the ratio of the brightest (largest) positive pixel brightness value in the image to the rms of pixel brightness values in the bounding box region.

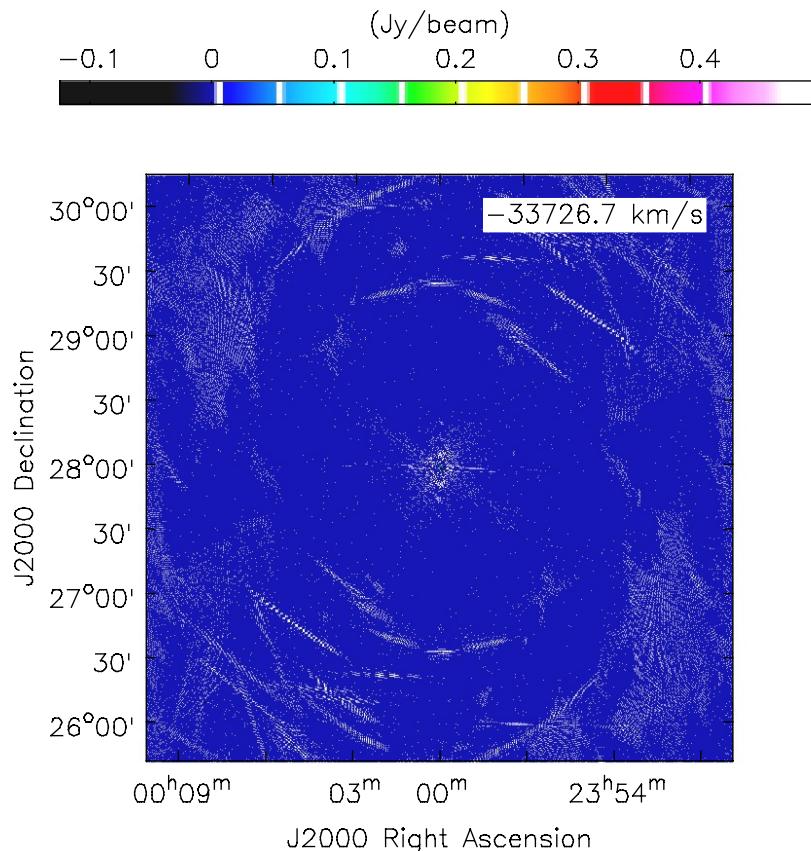


Figure 13: CASA-Meqtrees SKA simulation and CASA-generated dirty image of two 1 Jy point sources with  $75'$  separation located at R.A.:  $0^{\text{h}}0^{\text{m}}0.1^{\text{s}}$ , Dec.: $28^{\circ}0^{\text{m}}1^{\text{s}}$  and R.A.:  $0^{\text{h}}0^{\text{m}}0.1^{\text{s}}$ , Dec.: $26^{\circ}45^{\text{m}}10^{\text{s}}$ , with visibilities corrupted by Cortes beam model (using Meqtrees) with pointing errors ( $l_{\text{offset}} = 0.00172 \text{ rad} = 5.919'$ ,  $m_{\text{offset}} = 0.0004 \text{ rad} = 1.416'$ ). Simulation:  $N_a = 75$ , same as in previous plots; image displayed and brightness-contrast colormap adjustments with casaviewer; colormap used: 'isophotes'.

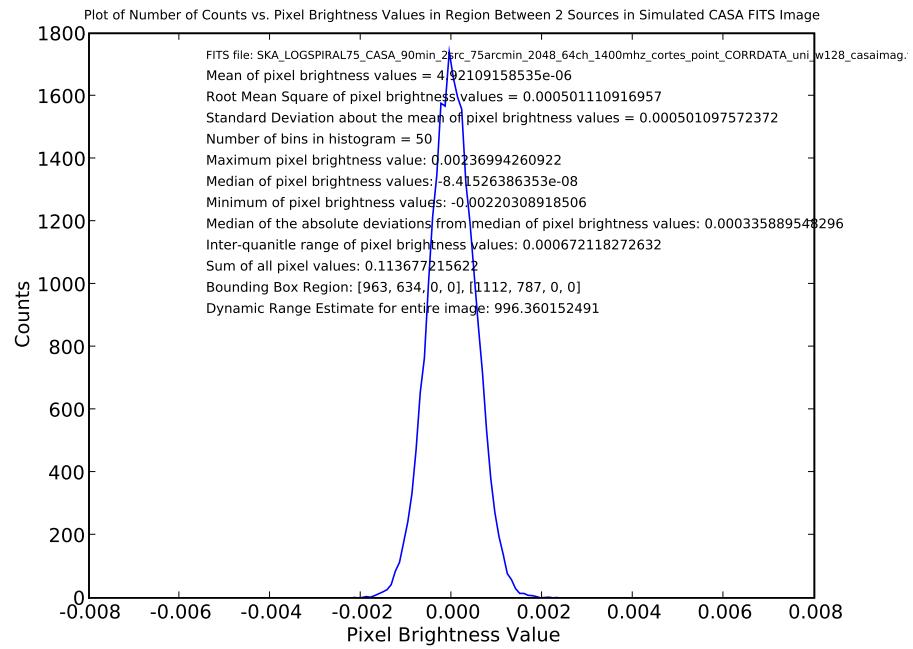


Figure 14: Line plot of counts vs. pixel brightness value for a specified bounding box region (bottom left corner = [963,634,0,0], top right corner = [1112,787,0,0]) between but not including the two point sources in Fig. 13. Statistical measures calculated within the bounding box region are included in the plot. The dynamic range estimate is for the entire image and is taken as the ratio of the brightest (largest) positive pixel brightness value in the image to the rms of pixel brightness values in the bounding box region.

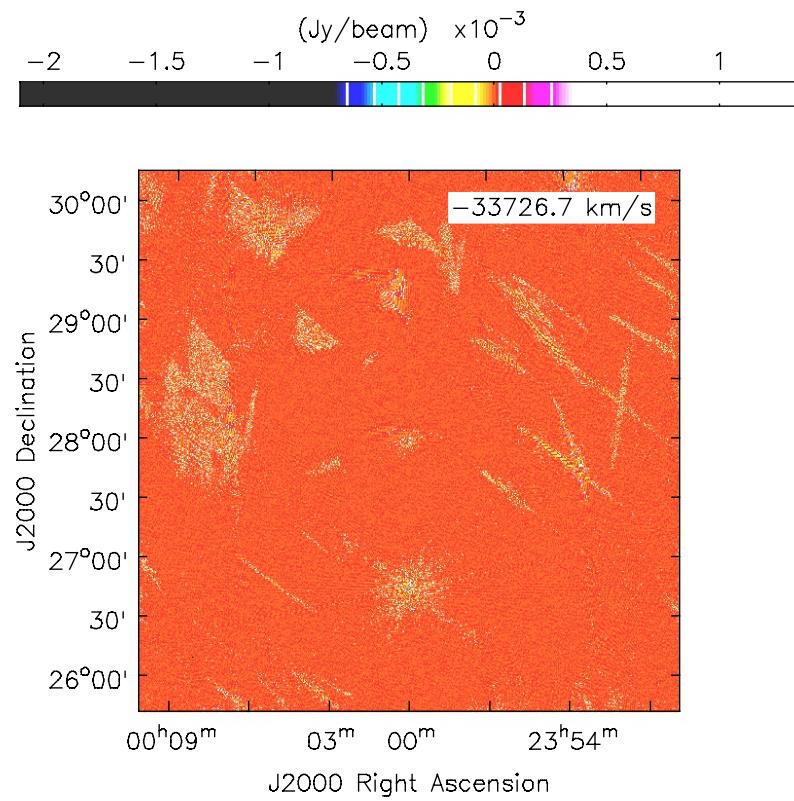


Figure 15: CASA-Meqtrees SKA simulation and CASA-generated dirty image resulting from subtracting image from CASA-Meqtrees simulation with visibilities corrupted by Cortes beam and no pointing errors from image from CASA-Meqtrees simulation with visibilities corrupted by Cortes beam model and pointing errors. Simulation:  $N_a = 75$ , etc. (same as in previous.)

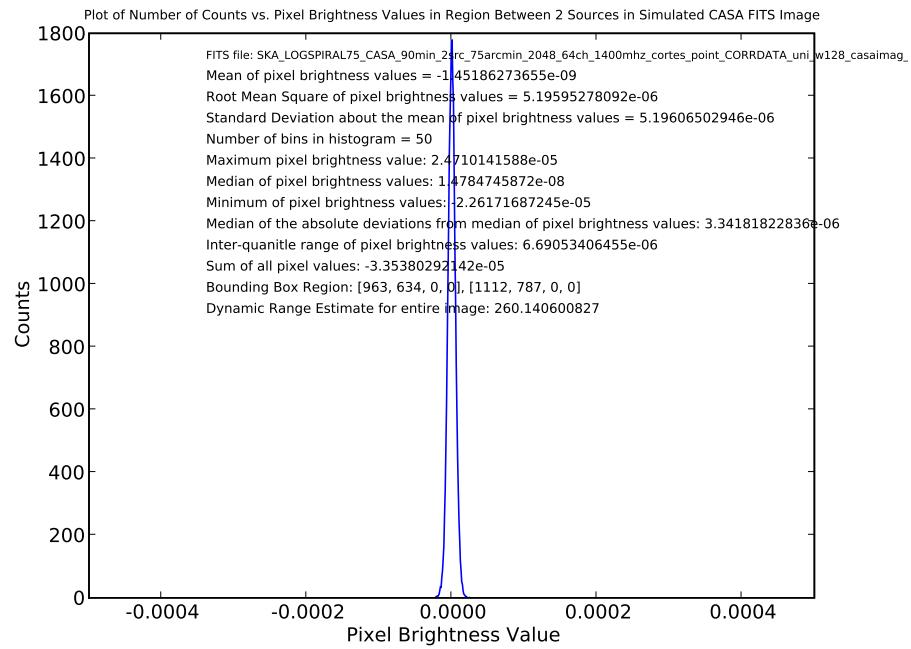


Figure 16: Line plot of counts vs. pixel brightness value for a specified bounding box region (bottom left corner = [963,634,0,0], top right corner = [1112,787,0,0]) between but not including the two point sources in Fig. 15. Statistical measures calculated within the bounding box region are included in the plot. The dynamic range estimate is for the entire image and is taken as the ratio of the brightest (largest) pixel brightness value in the image to the rms of pixel brightness values in the bounding box region.

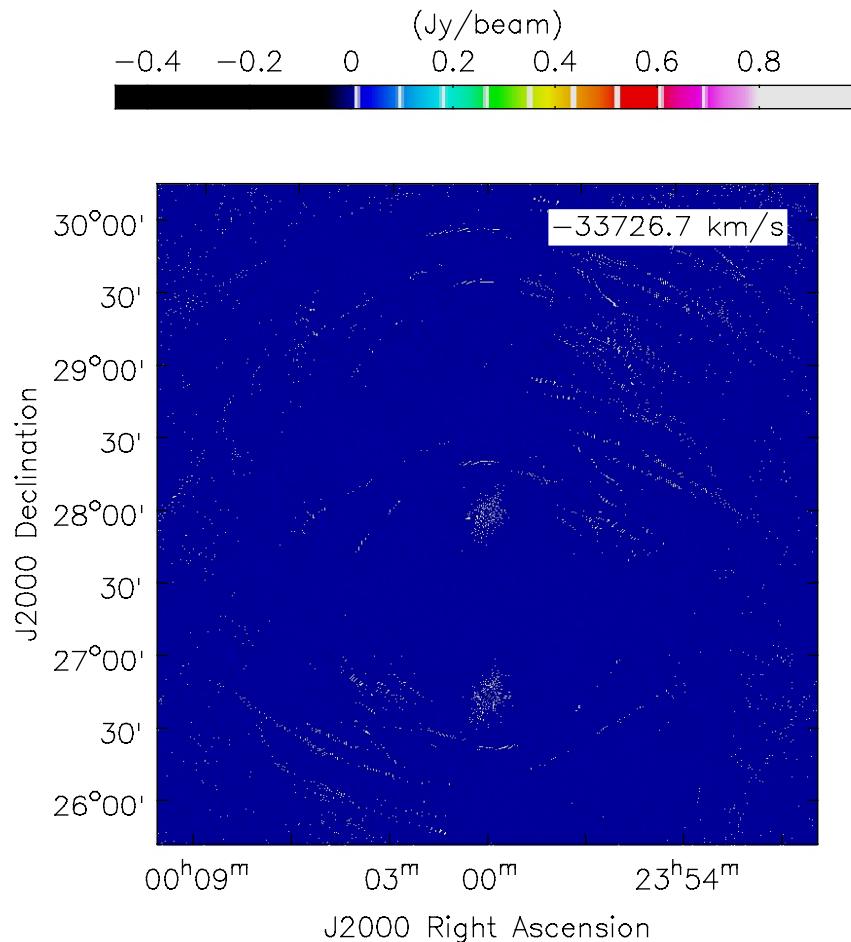


Figure 17: CASA SKA simulation and CASA-generated dirty image of two 1 Jy point sources with 75' separation located at R.A.:  $0^{\text{h}}0^{\text{m}}0.1^{\text{s}}$ , Dec.: $28^{\circ}0^{\text{m}}1^{\text{s}}$  and R.A.:  $0^{\text{h}}0^{\text{m}}0.1^{\text{s}}$ , Dec.: $26^{\circ}45^{\text{m}}10^{\text{s}}$ , without Cortes beam model corruption of visibilities. Simulation:  $N_a = 100$ , same as in previous progress reports; image displayed and brightness-contrast colormap adjustments with casaviewer; colormap used: 'isophotes'.

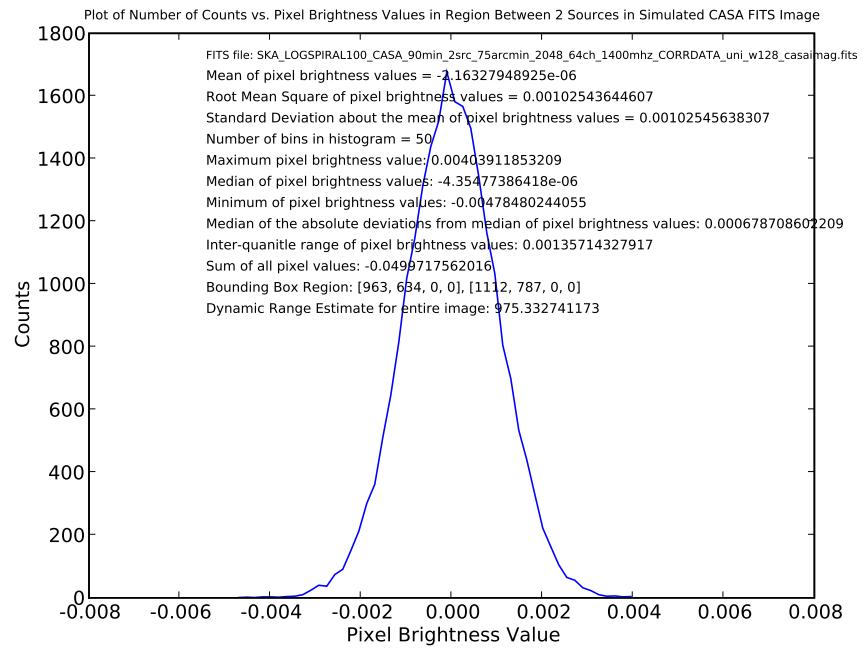


Figure 18: Line plot of counts vs. pixel brightness value for a specified bounding box region (bottom left corner = [963,634,0,0], top right corner = [1112,787,0,0]) between but not including the two point sources in Fig. 17. Statistical measures calculated within the bounding box region are included in the plot. The dynamic range estimate is for the entire image and is taken as the ratio of the brightest (largest) positive pixel brightness value in the image to the rms of pixel brightness values in the bounding box region.

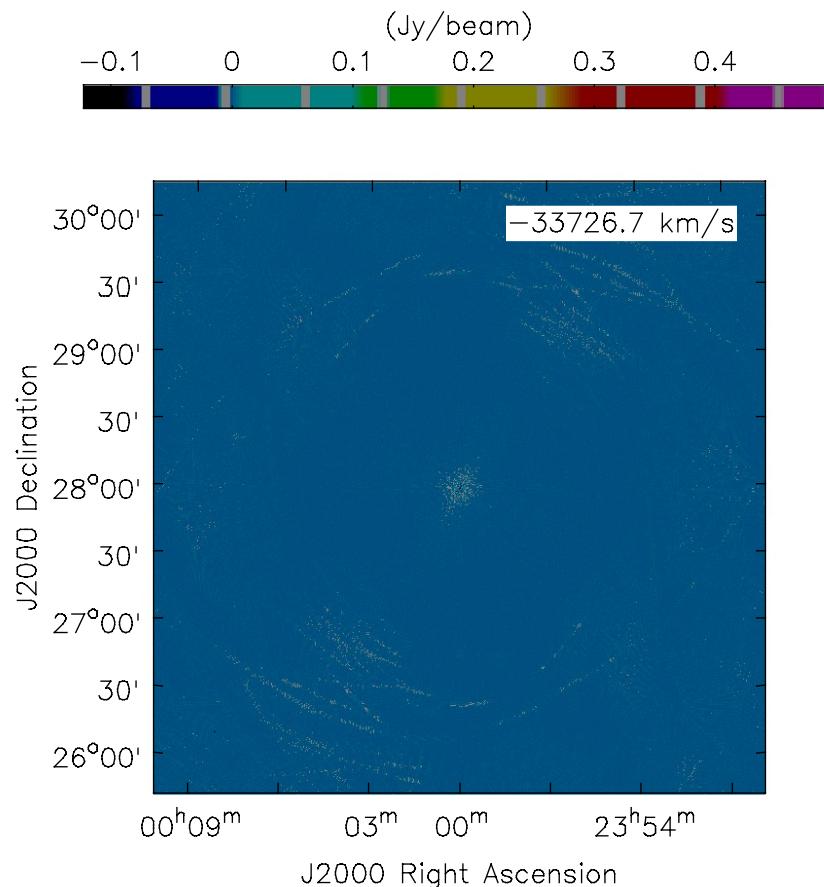


Figure 19: CASA-Meqtrees SKA simulation and CASA-generated dirty image of two 1 Jy point sources with  $75'$  separation located at R.A.:  $0^h0m0.1^s$ , Dec.: $28^d0^m1^s$  and R.A.:  $0^h0m0.1^s$ , Dec.: $26^d45^m10^s$ , with visibilities corrupted by Cortes beam model (using Meqtrees) without pointing errors. Simulation:  $N_a = 100$ , same as in previous progress reports; image displayed and brightness-contrast colormap adjustments with casaviewer; colormap used: 'isophotes'.

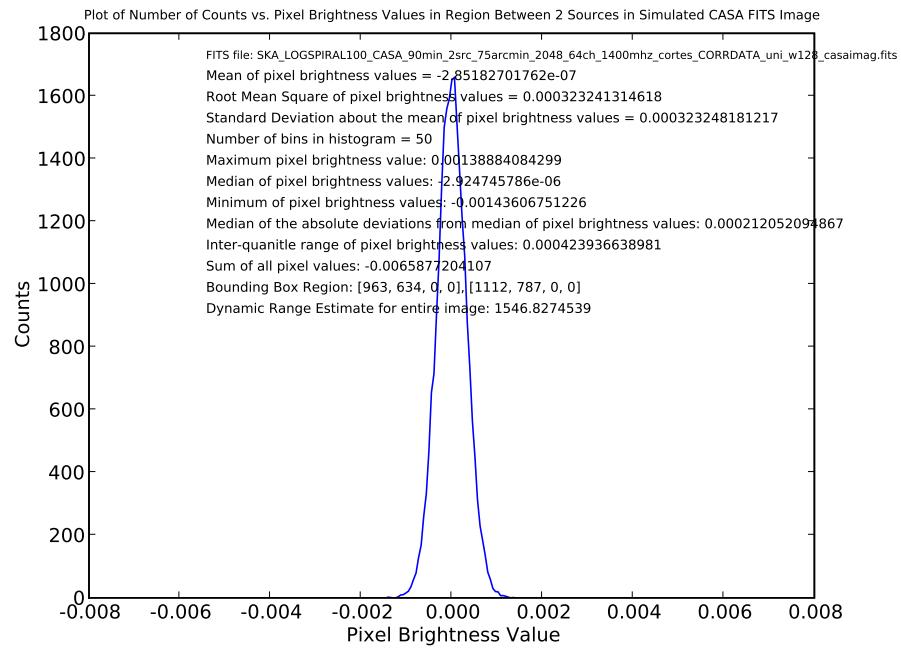


Figure 20: Line plot of counts vs. pixel brightness value for a specified bounding box region (bottom left corner = [963,634,0,0], top right corner = [1112,787,0,0]) between but not including the two point sources in Fig. 19. Statistical measures calculated within the bounding box region are included in the plot. The dynamic range estimate is for the entire image and is taken as the ratio of the brightest (largest) positive pixel brightness value in the image to the rms of pixel brightness values in the bounding box region.

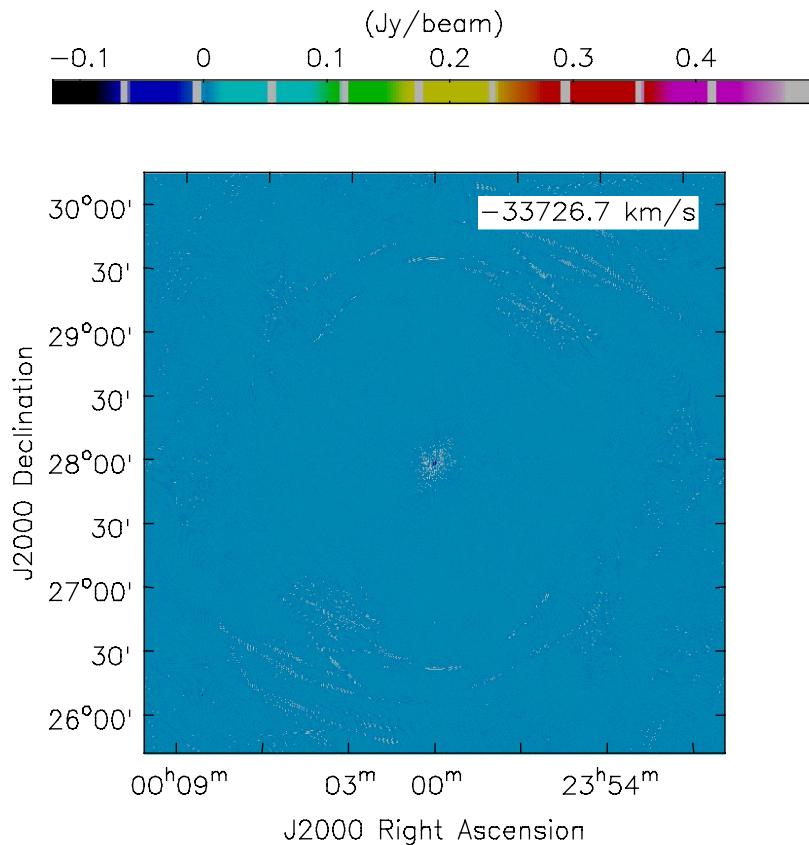


Figure 21: CASA-Meqtrees SKA simulation and CASA-generated dirty image of two 1 Jy point sources with  $75'$  separation located at R.A.:  $0^{\text{h}}0m0.1^s$ , Dec.: $28^{\circ}0m1^s$  and R.A.:  $0^{\text{h}}0m0.1^s$ , Dec.: $26^{\circ}45m10^s$ , with visibilities corrupted by Cortes beam model (using Meqtrees) with pointing errors ( $l_{\text{offset}} = 0.00172 \text{ rad} = 5.919'$ ,  $m_{\text{offset}} = 0.0004 \text{ rad} = 1.416'$ ). Simulation:  $N_a = 100$ , same as in previous plots; image displayed and brightness-contrast colormap adjustments with casaviewer; colormap used: 'isophotes'.

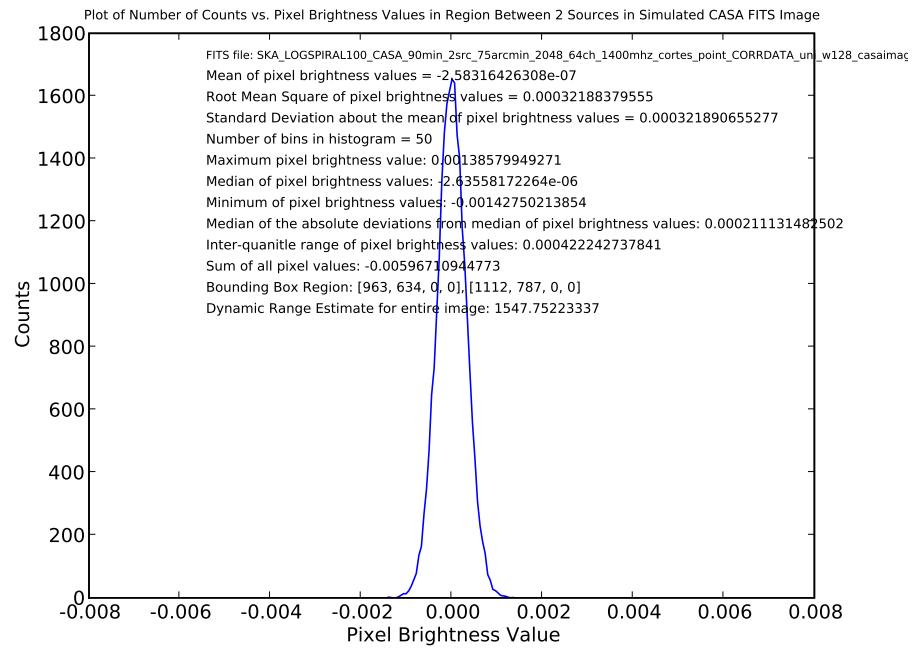


Figure 22: Line plot of counts vs. pixel brightness value for a specified bounding box region (bottom left corner = [963,634,0,0], top right corner = [1112,787,0,0]) between but not including the two point sources in Fig. 21. Statistical measures calculated within the bounding box region are included in the plot. The dynamic range estimate is for the entire image and is taken as the ratio of the brightest (largest) positive pixel brightness value in the image to the rms of pixel brightness values in the bounding box region.

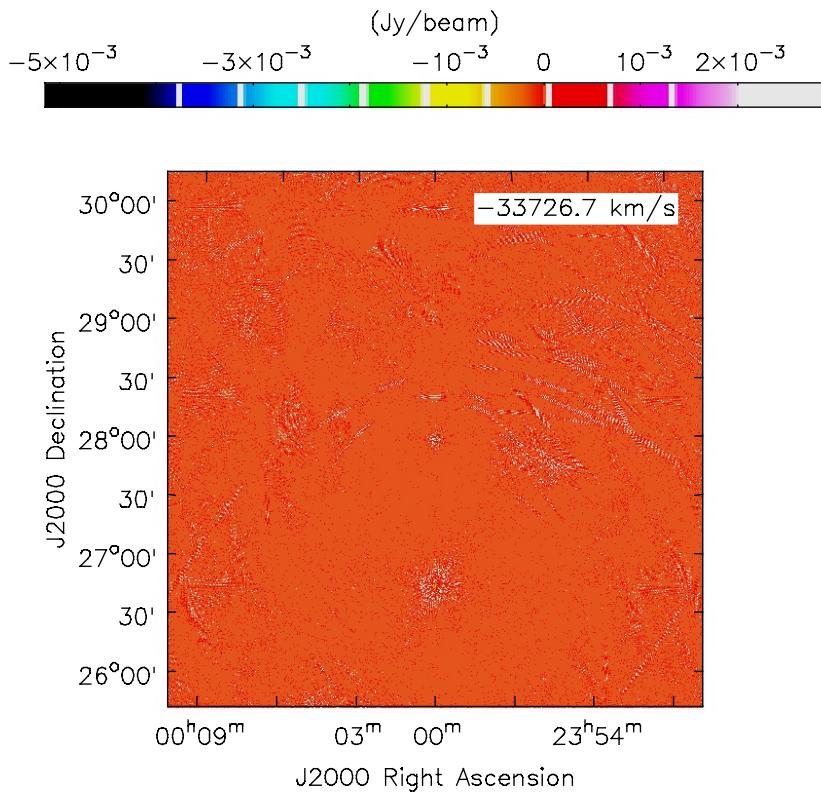


Figure 23: CASA-Meqtrees SKA simulation and CASA-generated dirty image resulting from subtracting image from CASA-Meqtrees simulation with visibilities corrupted by Cortes beam and no pointing errors from image resulting from CASA-Meqtrees simulation with visibilities corrupted by Cortes beam model and pointing errors. Simulation:  $N_a = 100$ , etc. (same as in previous.)

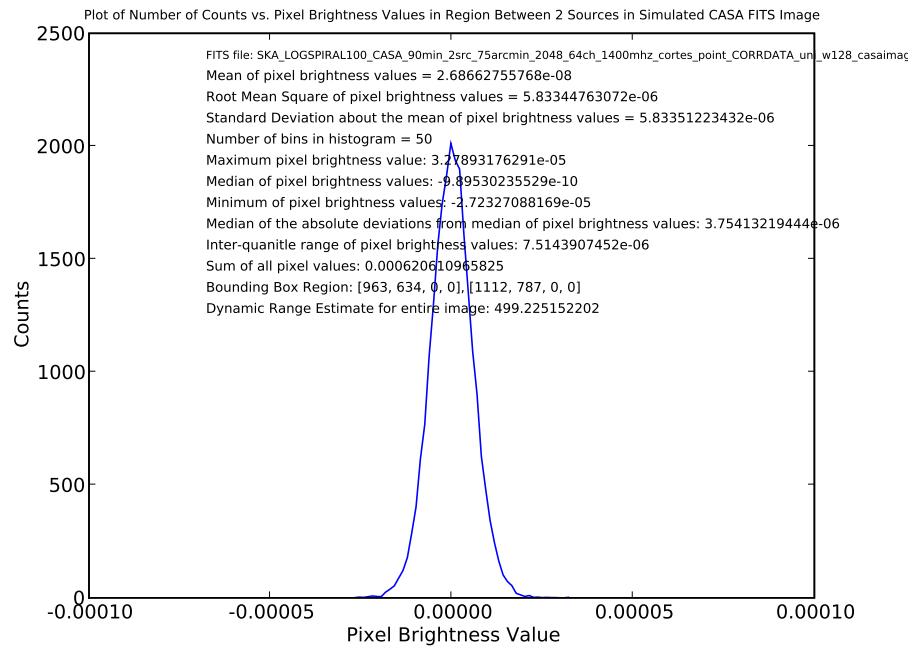


Figure 24: Line plot of counts vs. pixel brightness value for a specified bounding box region (bottom left corner = [963,634,0,0], top right corner = [1112,787,0,0]) between but not including the two point sources in Fig. 23. Statistical measures calculated within the bounding box region are included in the plot. The dynamic range estimate is for the entire image and is taken as the ratio of the brightest (largest) pixel brightness value in the image to the rms of pixel brightness values in the bounding box region.

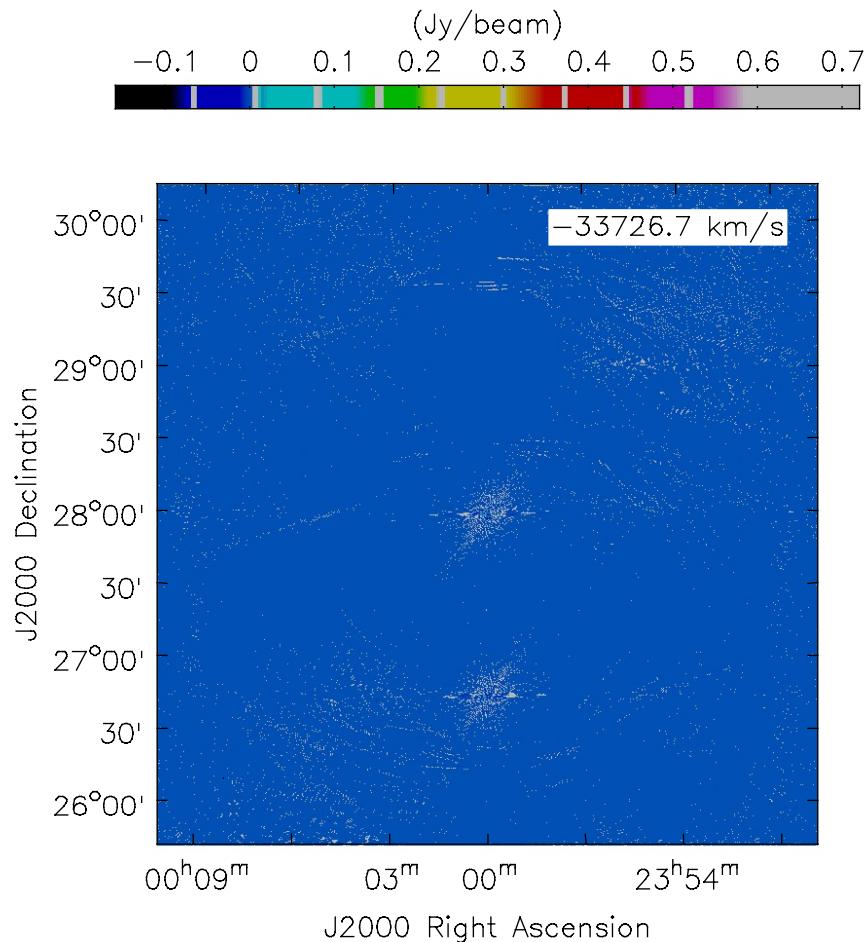


Figure 25: CASA SKA simulation and CASA-generated dirty image of two 1 Jy point sources with 75' separation located at R.A.:  $0^{\text{h}}0^{\text{m}}0.1^{\text{s}}$ , Dec.: $28^{\text{d}}0^{\text{m}}1^{\text{s}}$  and R.A.:  $0^{\text{h}}0^{\text{m}}0.1^{\text{s}}$ , Dec.: $26^{\text{d}}45^{\text{m}}10^{\text{s}}$ , without Cortes beam model corruption of visibilities. Simulation:  $N_a = 150$ , same as in previous progress reports; image displayed and brightness-contrast colormap adjustments with casaviewer; colormap used: 'isophotes'.

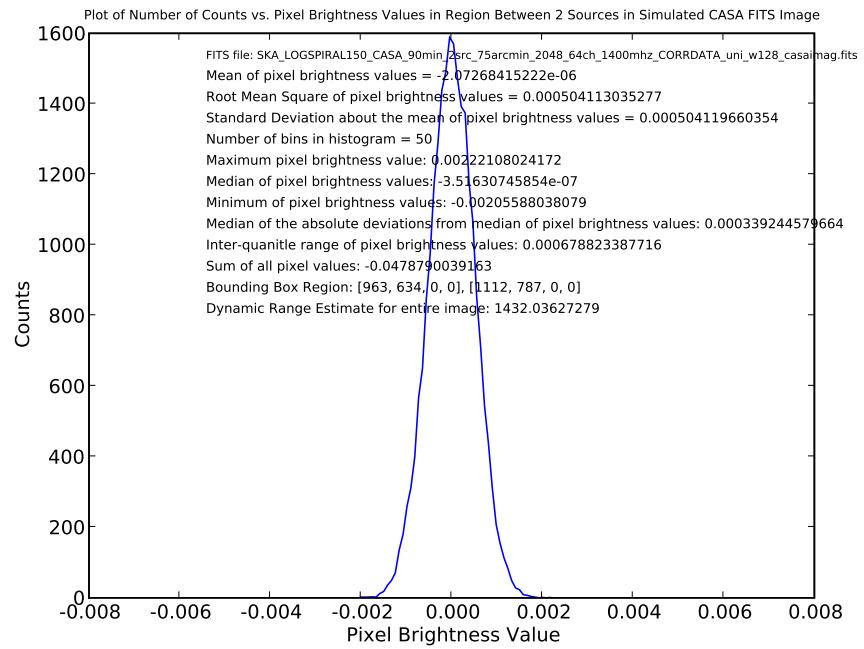


Figure 26: Line plot of counts vs. pixel brightness value for a specified bounding box region (bottom left corner = [963,634,0,0], top right corner = [1112,787,0,0]) between but not including the two point sources in Fig. 25. Statistical measures calculated within the bounding box region are included in the plot. The dynamic range estimate is for the entire image and is taken as the ratio of the brightest (largest) positive pixel brightness value in the image to the rms of pixel brightness values in the bounding box region.

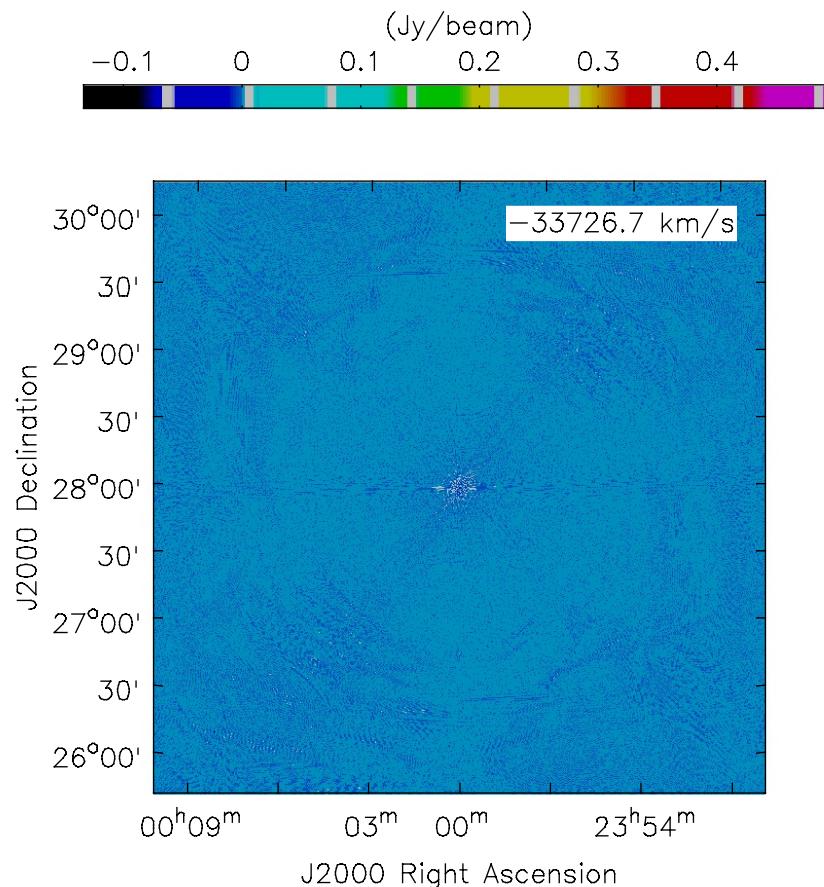


Figure 27: CASA-Meqtrees SKA simulation and CASA-generated dirty image of two 1 Jy point sources with 75' separation located at R.A.:  $0^h0^m0.1^s$ , Dec.: $28^d0^m1^s$  and R.A.:  $0^h0^m0.1^s$ , Dec.: $26^d45^m10^s$ , with visibilities corrupted by Cortes beam model (using Meqtrees) without pointing errors. Simulation:  $N_a = 150$ , same as in previous progress reports; image displayed and brightness-contrast colormap adjustments with casaviewer; colormap used: 'isophotes'.

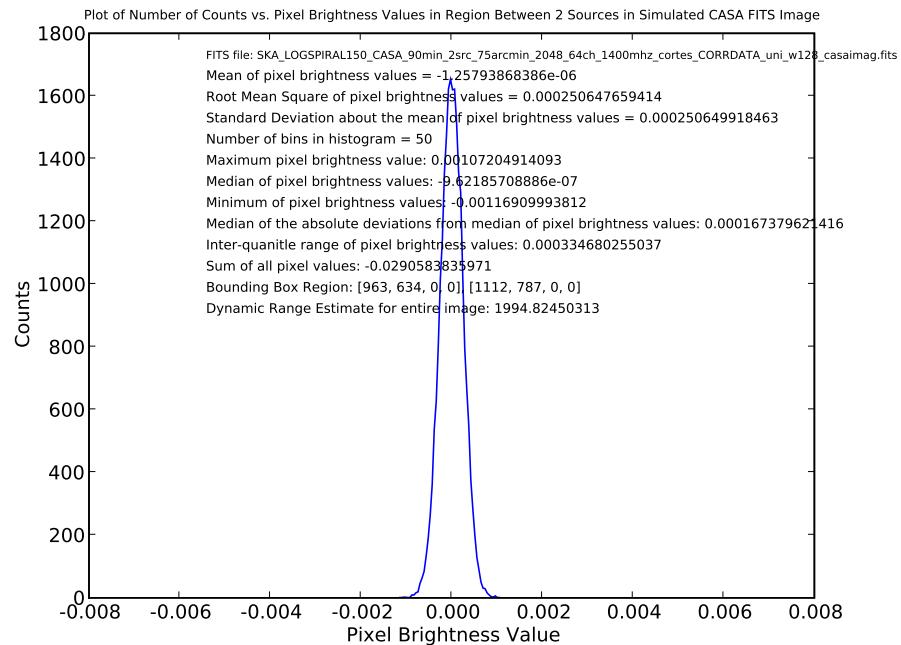


Figure 28: Line plot of counts vs. pixel brightness value for a specified bounding box region (bottom left corner = [963,634,0,0], top right corner = [1112,787,0,0]) between but not including the two point sources in Fig. 27. Statistical measures calculated within the bounding box region are included in the plot. The dynamic range estimate is for the entire image and is taken as the ratio of the brightest (largest) positive pixel brightness value in the image to the rms of pixel brightness values in the bounding box region.

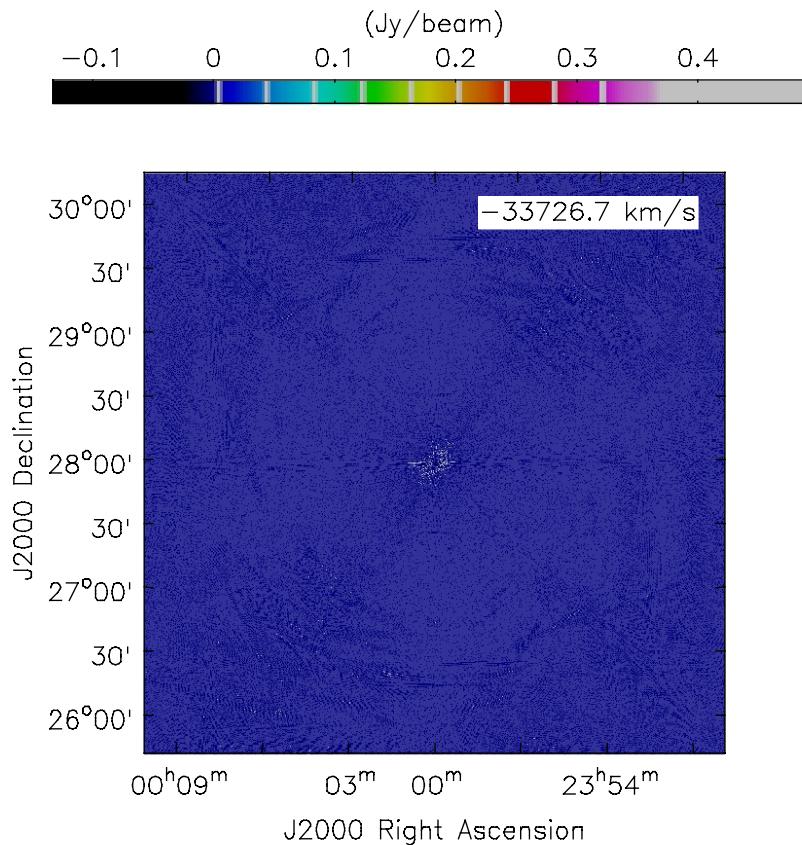


Figure 29: CASA-Meqtrees SKA simulation and CASA-generated dirty image of two 1 Jy point sources with 75' separation located at R.A.: 0<sup>h</sup>0<sup>m</sup>0.1<sup>s</sup>, Dec.:28<sup>d</sup>0<sup>m</sup>1<sup>s</sup> and R.A.: 0<sup>h</sup>0<sup>m</sup>0.1<sup>s</sup>, Dec.:26<sup>d</sup>45<sup>m</sup>10<sup>s</sup>, with visibilities corrupted by Cortes beam model (using Meqtrees) with pointing errors ( $l_{offset} = 0.00172 \text{ rad} = 5.919'$ ,  $m_{offset} = 0.0004 \text{ rad} = 1.416'$ ). Simulation:  $N_a = 150$ , same as in previous plots; image displayed and brightness-contrast colormap adjustments with casaviewer; colormap used: 'isophotes'.

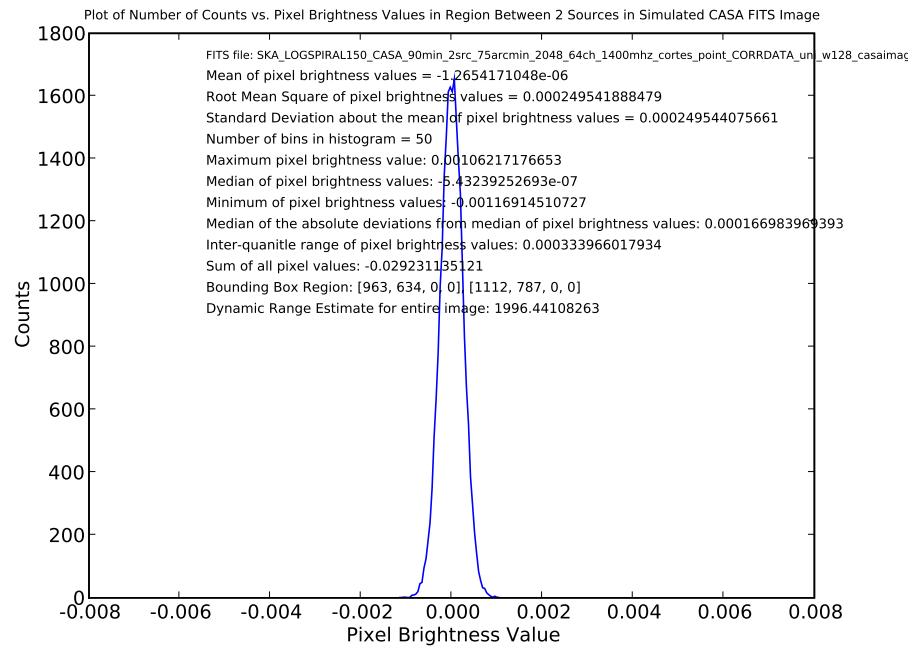


Figure 30: Line plot of counts vs. pixel brightness value for a specified bounding box region (bottom left corner = [963,634,0,0], top right corner = [1112,787,0,0]) between but not including the two point sources in Fig. 29. Statistical measures calculated within the bounding box region are included in the plot. The dynamic range estimate is for the entire image and is taken as the ratio of the brightest (largest) positive pixel brightness value in the image to the rms of pixel brightness values in the bounding box region.

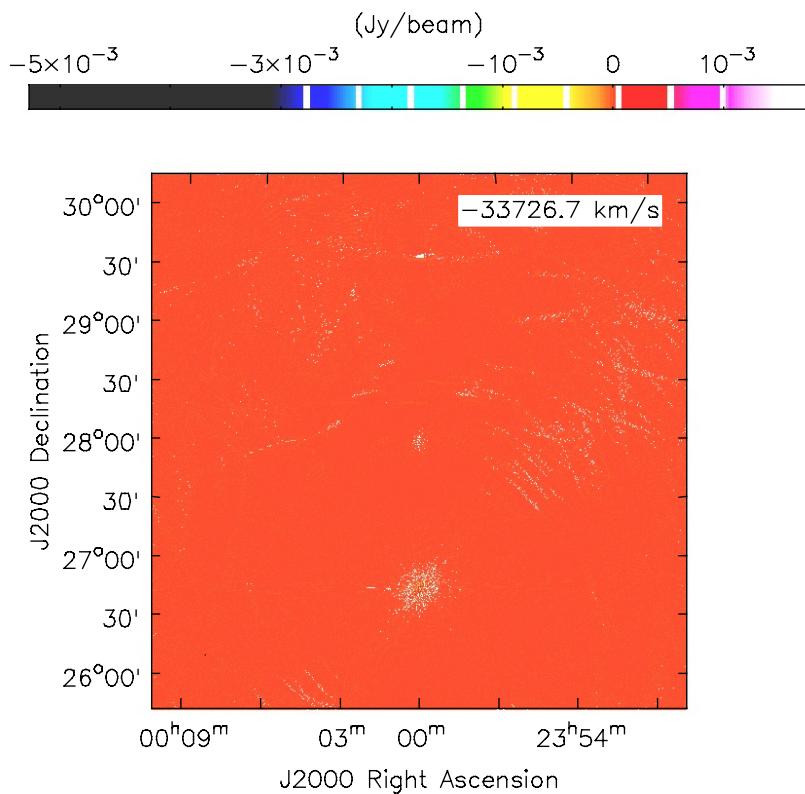


Figure 31: CASA-Meqtrees SKA simulation and CASA-generated dirty image resulting from subtracting image from CASA-Meqtrees simulation with visibilities corrupted by Cortes beam model and no pointing errors from image resulting from CASA-Meqtrees simulation with visibilities corrupted by Cortes beam model and pointing errors. Simulation:  $N_a = 150$ , etc. (same as in previous.)

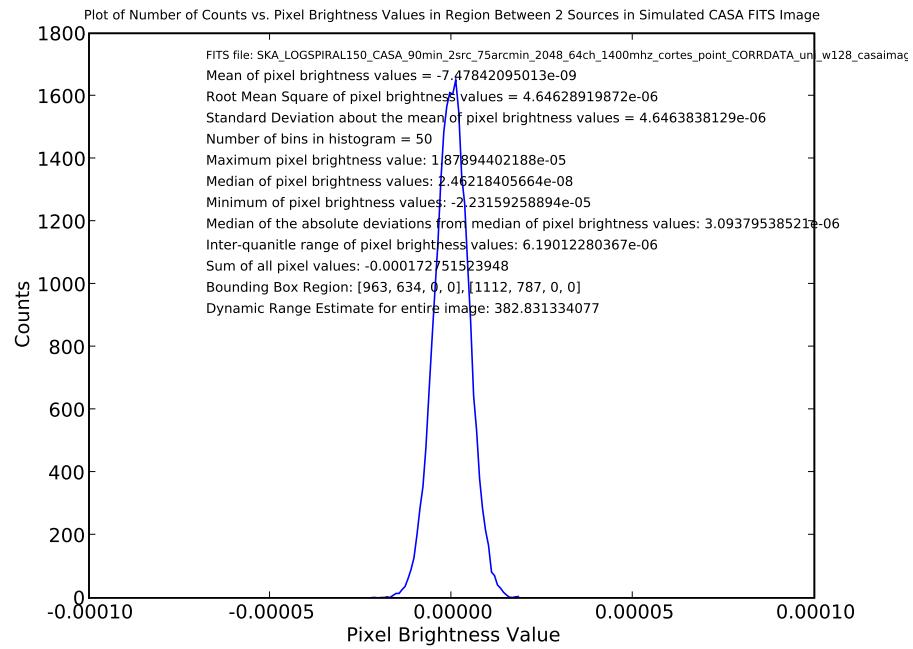


Figure 32: Line plot of counts vs. pixel brightness value for a specified bounding box region (bottom left corner = [963,634,0,0], top right corner = [1112,787,0,0]) between but not including the two point sources in Fig. 31. Statistical measures calculated within the bounding box region are included in the plot. The dynamic range estimate is for the entire image and is taken as the ratio of the brightest (largest) pixel brightness value in the image to the rms of pixel brightness values in the bounding box region.

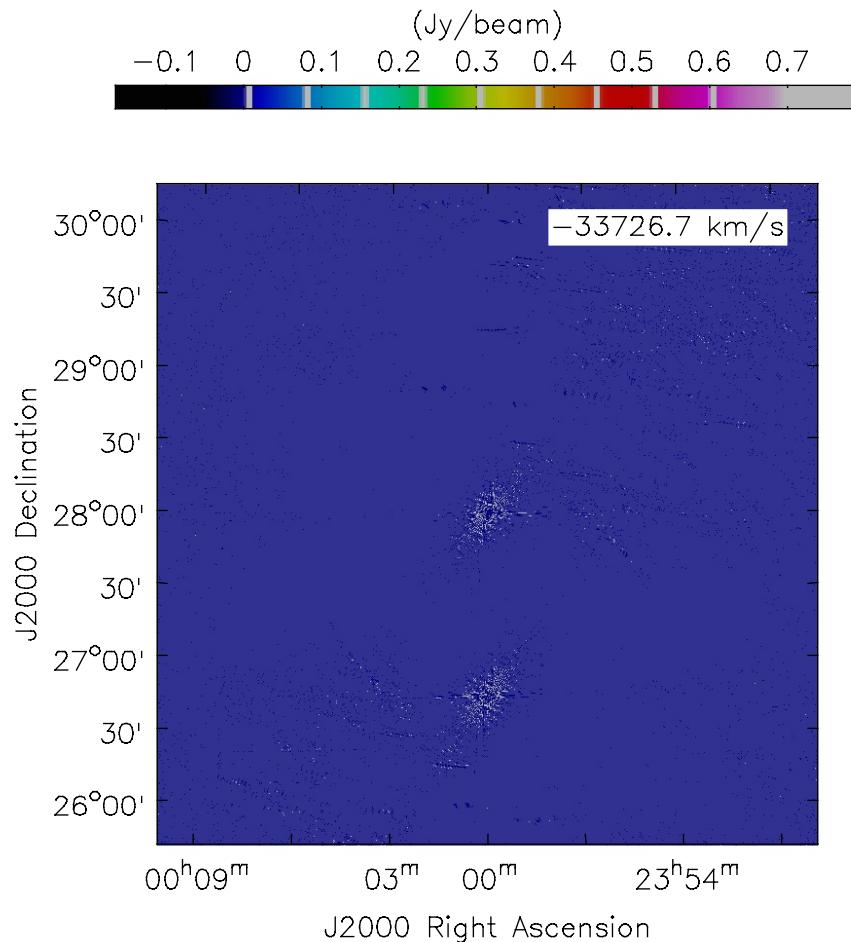


Figure 33: CASA SKA simulation and CASA-generated dirty image of two 1 Jy point sources with  $75'$  separation located at R.A.:  $0^h0^m0.1^s$ , Dec.: $28^{\circ}0^m1^s$  and R.A.:  $0^h0^m0.1^s$ , Dec.: $26^{\circ}45^m10^s$ , without Cortes beam model corruption of visibilities. Simulation:  $N_a = 175$ , same as in previous progress reports; image displayed and brightness-contrast colormap adjustments with casaviewer; colormap used: 'isophotes'.

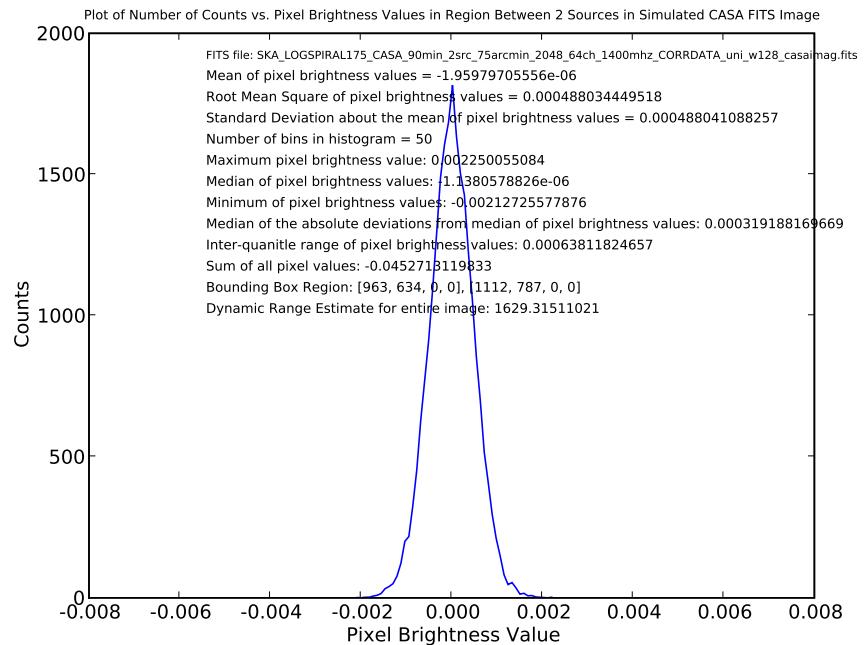


Figure 34: Line plot of counts vs. pixel brightness value for a specified bounding box region (bottom left corner = [963,634,0,0], top right corner = [1112,787,0,0]) between but not including the two point sources in Fig. 33. Statistical measures calculated within the bounding box region are included in the plot. The dynamic range estimate is for the entire image and is taken as the ratio of the brightest (largest) positive pixel brightness value in the image to the rms of pixel brightness values in the bounding box region.

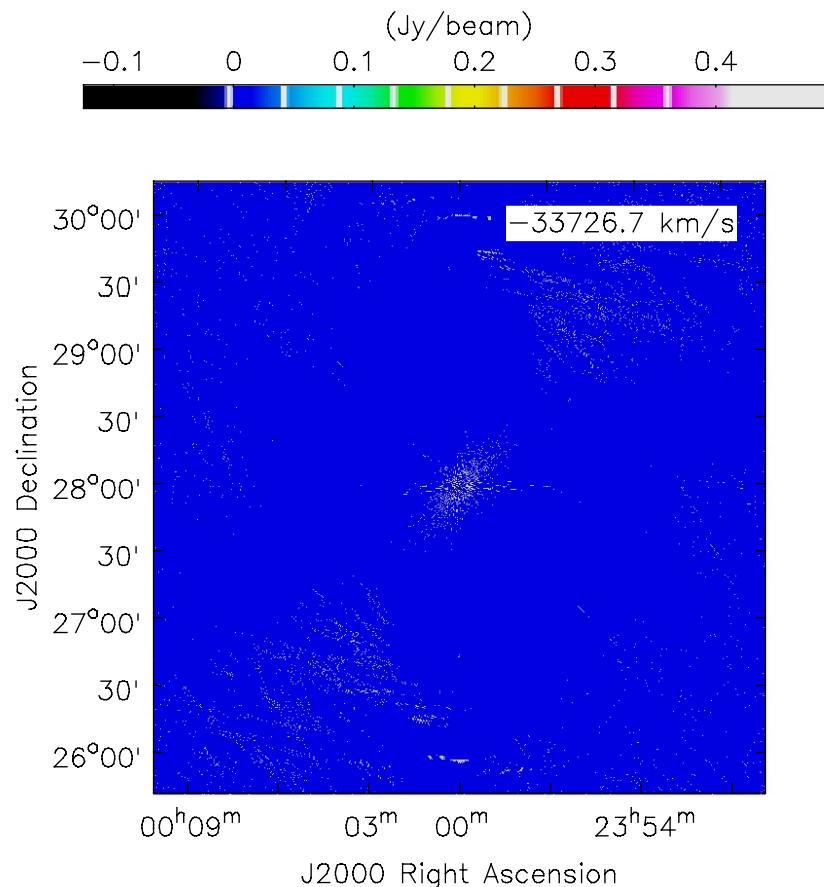


Figure 35: CASA-Meqtrees SKA simulation and CASA-generated dirty image of two 1 Jy point sources with 75' separation located at R.A.: 0<sup>h</sup>0<sup>m</sup>0.1<sup>s</sup>, Dec.:28<sup>d</sup>0<sup>m</sup>1<sup>s</sup> and R.A.: 0<sup>h</sup>0<sup>m</sup>0.1<sup>s</sup>, Dec.:26<sup>d</sup>45<sup>m</sup>10<sup>s</sup>, with visibilities corrupted by Cortes beam model (using Meqtrees) without pointing errors. Simulation:  $N_a = 175$ , same as in previous progress reports; image displayed and brightness-contrast colormap adjustments with casaviewer; colormap used: 'isophotes'.

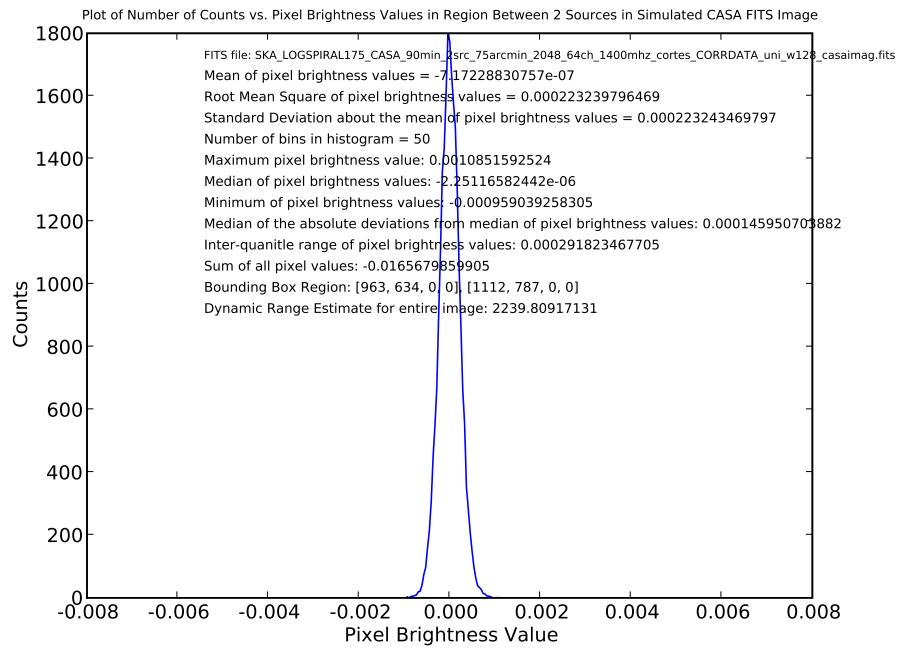


Figure 36: Line plot of counts vs. pixel brightness value for a specified bounding box region (bottom left corner = [963,634,0,0], top right corner = [1112,787,0,0]) between but not including the two point sources in Fig. 35. Statistical measures calculated within the bounding box region are included in the plot. The dynamic range estimate is for the entire image and is taken as the ratio of the brightest (largest) positive pixel brightness value in the image to the rms of pixel brightness values in the bounding box region.

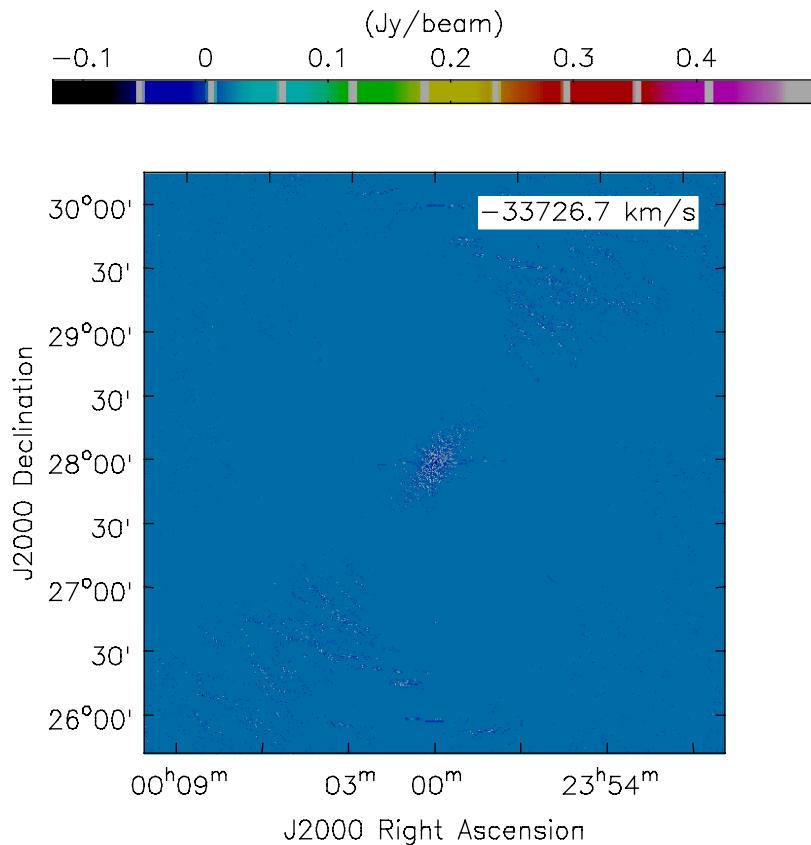


Figure 37: CASA-Meqtrees SKA simulation and CASA-generated dirty image of two 1 Jy point sources with 75' separation located at R.A.: 0<sup>h</sup>0<sup>m</sup>0.1<sup>s</sup>, Dec.:28<sup>d</sup>0<sup>m</sup>1<sup>s</sup> and R.A.: 0<sup>h</sup>0<sup>m</sup>0.1<sup>s</sup>, Dec.:26<sup>d</sup>45<sup>m</sup>10<sup>s</sup>, with visibilities corrupted by Cortes beam model (using Meqtrees) with pointing errors ( $l_{offset} = 0.00172 \text{ rad} = 5.919'$ ,  $m_{offset} = 0.0004 \text{ rad} = 1.416'$ ). Simulation:  $N_a = 175$ , same as in previous plots; image displayed and brightness-contrast colormap adjustments with casaviewer; colormap used: 'isophotes'.

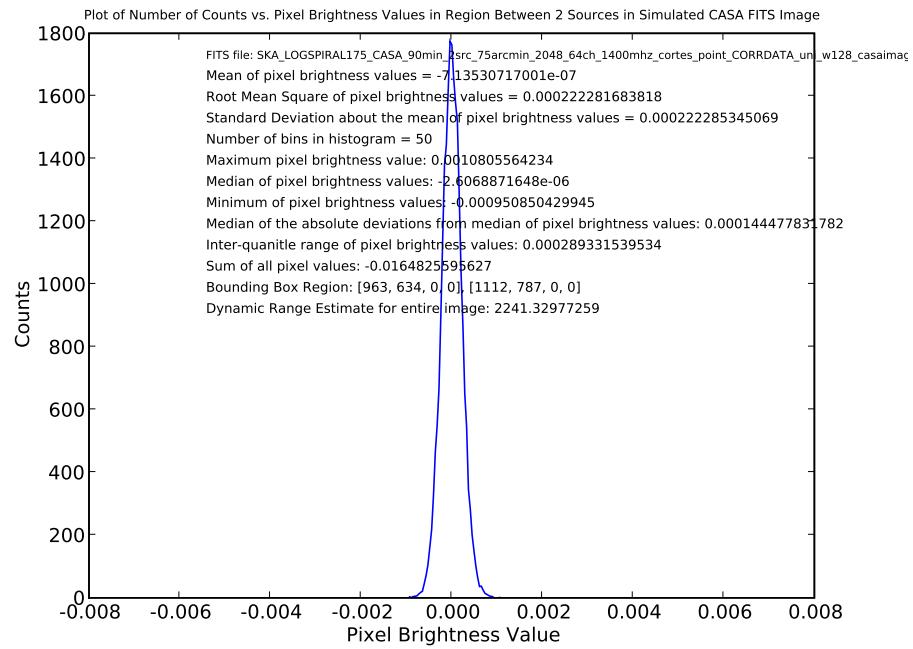


Figure 38: Line plot of counts vs. pixel brightness value for a specified bounding box region (bottom left corner = [963,634,0,0], top right corner = [1112,787,0,0]) between but not including the two point sources in Fig. 37. Statistical measures calculated within the bounding box region are included in the plot. The dynamic range estimate is for the entire image and is taken as the ratio of the brightest (largest) positive pixel brightness value in the image to the rms of pixel brightness values in the bounding box region.

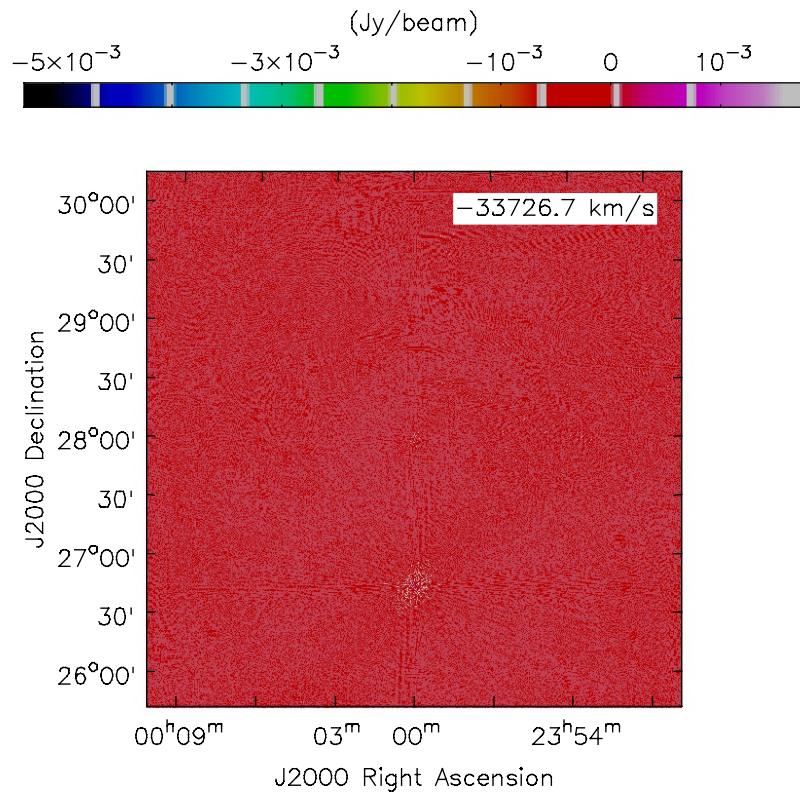


Figure 39: CASA-Meqtrees SKA simulation and CASA-generated dirty image resulting from subtracting image from CASA-Meqtrees simulation with visibilities corrupted by Cortes beam model and no pointing errors from image resulting from CASA-Meqtrees simulation with visibilities corrupted by Cortes beam model and pointing errors. Simulation:  $N_a = 175$ , etc. (same as in previous.)

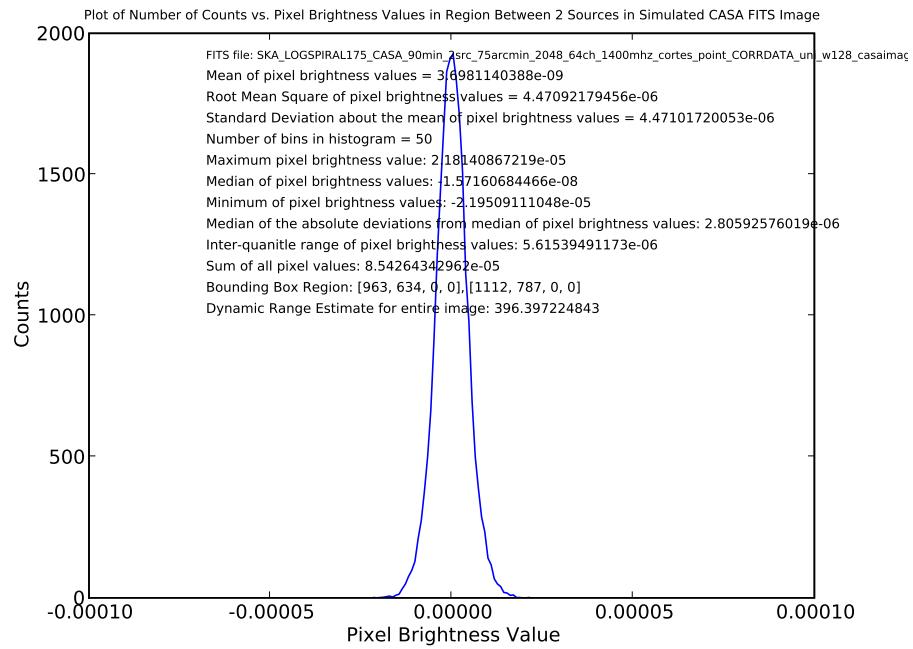


Figure 40: Line plot of counts vs. pixel brightness value for a specified bounding box region (bottom left corner = [963,634,0,0], top right corner = [1112,787,0,0]) between but not including the two point sources in Fig. 39. Statistical measures calculated within the bounding box region are included in the plot. The dynamic range estimate is for the entire image and is taken as the ratio of the brightest (largest) pixel brightness value in the image to the rms of pixel brightness values in the bounding box region.