

Pointing correction of the cameras onboard Akatsuki using the elliptic limb fitting technique: Accuracy evaluation

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We will report on accuracy of the pointing correction algorithm for cameras onboard Akatsuki.

Longitude-latitude maps of radiance or brightness temperature are needed for cloud tracking and analyses of atmospheric waves. We have to estimate the actual pointing of instruments from an image to accurately project the Venus image onto a longitude-latitude map. We have already developed an algorithm for correcting the pointing and proved using VMC-UV images that it has high enough accuracy for cloud tracking. However, we have not estimated the accuracy of pointing correction using images taken by Akatsuki.

We estimate variations of the sub S/C points on images and vectors from Akatsuki to the Venus center by 1000 times trials (Ogohara et al., 2012). The accuracy of pointing correction in the cases of UVI and LIR images is comparable to or better than that in the cases of VMC-UV. The accuracy of pointing correction in the cases of IR2 dayside images become worse than UVI and LIR. We will summarize the accuracy of pointing correction for the 4 cameras including the nightside.

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