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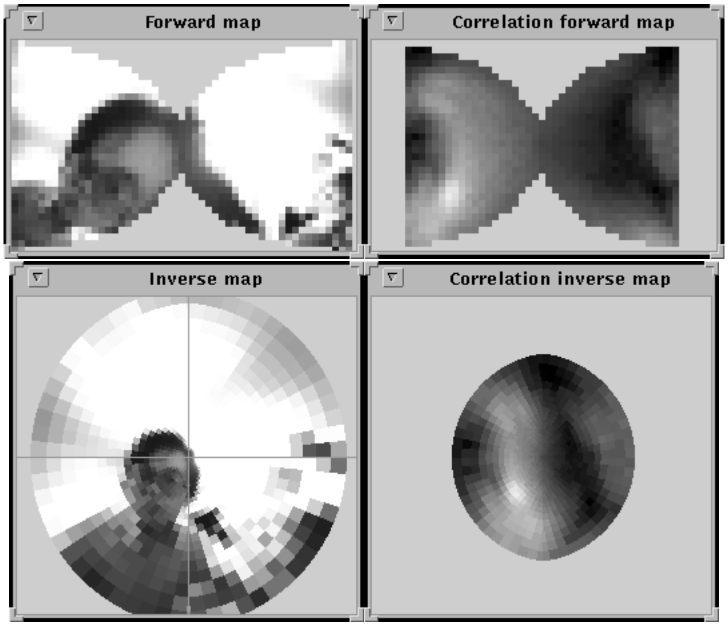

Figure 20: The left column shows the target image in the forward and inverse logmap coordinates. At the right is the result of template matching. The brightest pixel in the result map corresponds to the best matching position.

Transformation graphs are relatives of connectivity graphs that represent the effects of transformations such as translation and rotation in space variant images. Logmap images in particular are known to have elegant mathematical properties with respect to scaling and rotation, but translation of the data from these sensors has until now been problematic. If we have enough memory to represent all translation graphs for a particular sensor having k pixels, then we can compute a translated image in $O(k)$ steps. Our primary application of the translation graph is template matching. We show the results of template matching in a space variant image. The template matching operation is the basis for a target tracking program that requires processing only at the low data rate of the logmap sensor.

Image processing operations defined in the CG are independent of the sensor geometry. We developed a library of image processing routines that work on images from a variety of sensors. The CG image processing library will be useful as we continue to experiment with new sensor geometries, and as we begin to use future VLSI implementations of logmap sensors. [3]

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