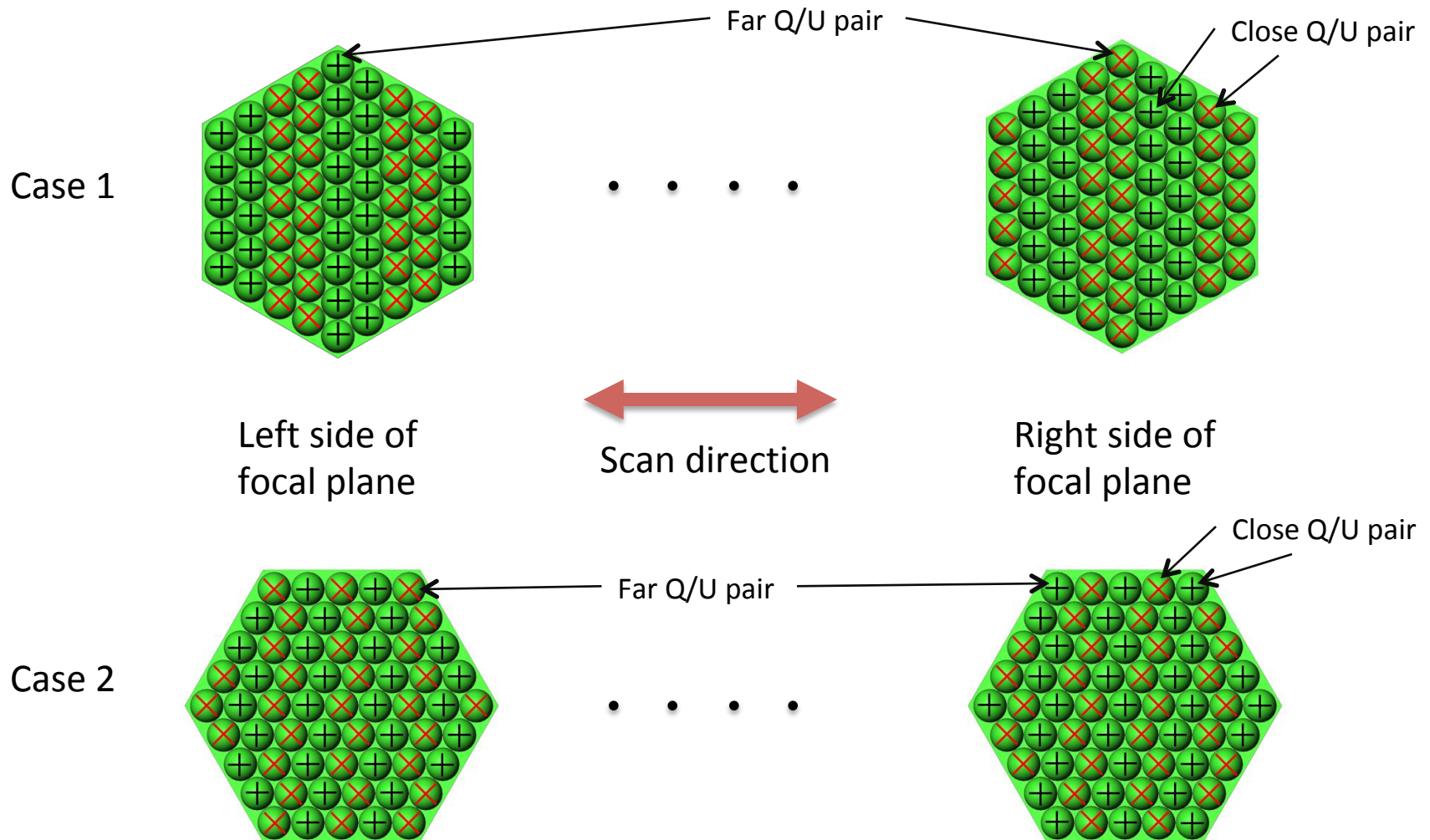


Q/U Pixel Layout for PICO

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Two layouts for Q and U pixels were considered for PICO. Q pixels measure the horizontal and vertical components of the polarization while U pixels measure the components that are rotated by ± 45 degree relative to the Q. Both Q, and U orientations are relative to a focal plane-based reference frame.



In both cases, Q and U are measured by pixels that are in close physical proximity in the focal plane in a direction along the scan. This ensures that a given sky pixel is observed by Q, U pixels that have similar beam patterns and similar focal plane thermal environment.

We determined there was no strong systematic argument for either pixel layout. Case 1 was chosen as baseline because it gave a somewhat better packing of the wafers on the focal plane, thus giving a slightly higher (~5%) detector count.

PICO focal plane layout

