Deblurring of the Antarctic Penguins Image

The mat-file `penguins.mat` includes two matlab variables: `B` is a blurred image, and `P` is the PSF that was used to blur the image. We used zero boundary conditions when the image was blurred.

In this challenge we shall use the DCT-based methods to deblur the image, because reflexive boundary conditions tend to give the best results for ordinary photos like this one. We must therefore work on a slightly smaller versions of `B` and `P` in which the borders of `B` have been removed (to remove the zero boundary artifact, which is clearly visible in the blurred image). Choose a suitable width of the border that reflects the "width" of the point spread function.

The next difficulty is the PSF array `P` which "almost" satisfies the strong symmetry condition from §4.3. Suggest a simple way to create a new PSF array of the same size as `P` that satisfies the strong symmetry condition.

Finally, try to deblur the image using the two MATLAB functions `tik_dct` and `tsvd_dct`. If time permits, you may want to compare with the inferior results from the FFT-based approach for this image.