1 Image analysis

The pre-processing workflow was as follows:

1. Make image 8 bit
2. Despeckle
3. Non-local Means Denoise (sigma = 5, smoothing = 1)
4. Non-local Means Denoise (sigma = 15, smoothing = 1)
5. Threshold (<10)
6. Make binary
7. Manually erase cross cutting pores

The workflow for the mask used in figure 2 was as follows:

1. Make image 8 bit
2. Non-local Means Denoise (sigma = 15, smoothing = 1)
3. Remove outliers: Dark (radius = 4, threshold = 50)
4. Threshold (<50)
5. Make binary
6. Remove outliers: Bright (radius = 12, threshold = 50)
7. Threshold (<50)
8. Make binary
Figure 1: Comparison of the Feret's diameter and the long axis of the best fit ellipse, for pores with a circularity < 1.

Figure 2: Further EBSD results. Fig. 1a displays an inverse pole figure map, presented for the X-direction of finite strain, with grain and special boundaries overlain. Fig. 1b highlights intracrystalline plasticity by plotting the misorientation of individual pixels to the mean orientation of the host grain.