

Supporting Information for:  
General Phase Regularized Reconstruction using Phase Cycling

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*Running head:* General Phase Regularized Reconstruction using Phase Cycling

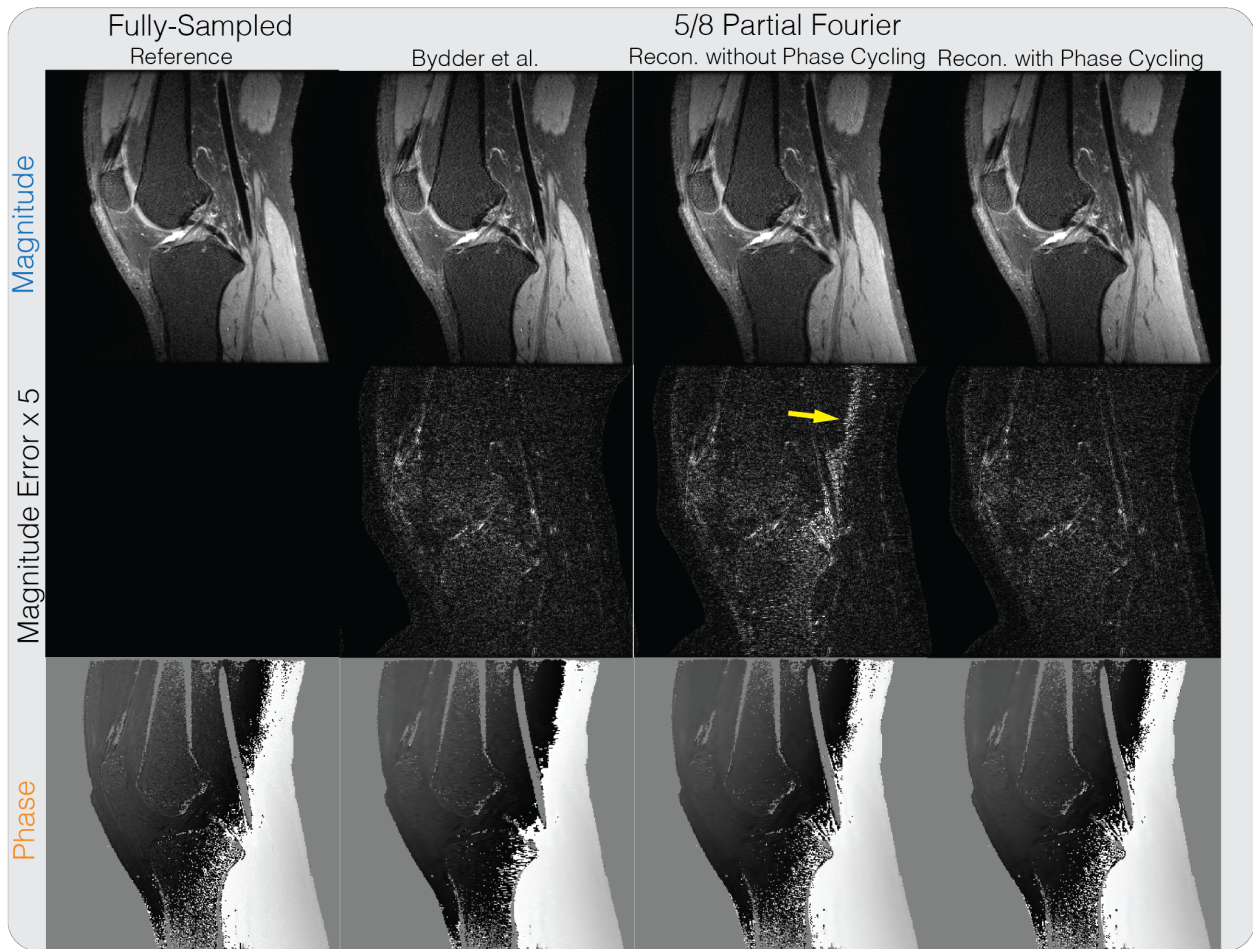
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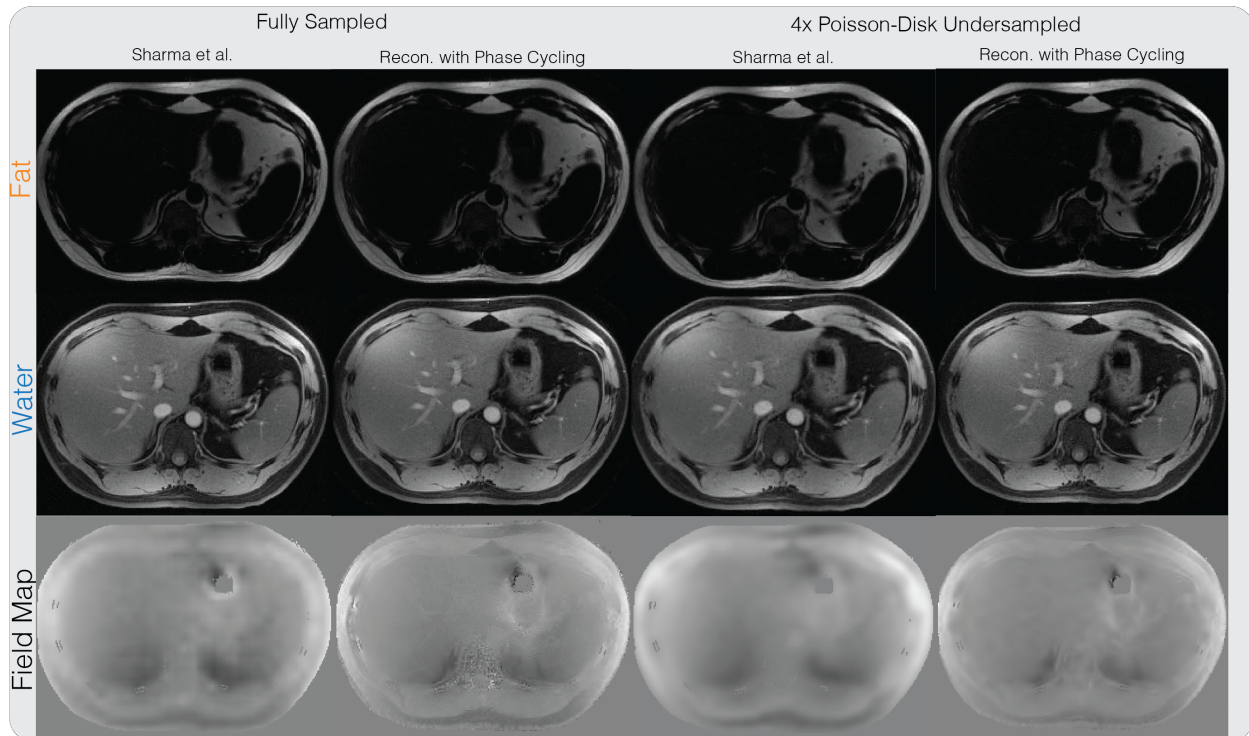
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Supporting Figure S1: Partial Fourier + PI reconstruction results on a knee dataset. Without phase cycling, significant artifacts can be seen in the magnitude image near phase wraps in the initial solution, pointed by the yellow arrow. With phase cycling, these artifacts were reduced and the result is comparable to the robust iterative partial Fourier method with  $\ell_1$  wavelet described in Bydder et al.



Supporting Figure S2: Water-fat + PI + CS reconstruction result on a liver dataset with three echoes. Both the method from Sharma et al. and our proposed method produce similar water and fat images on the fully-sampled dataset and the retrospectively under-sampled dataset.