

Discussion of the paper by A. Rieder and A.  
Faridani, "The Semi Discrete Filtered  
Backprojection Algorithm is Optimal for  
Tomographic Inversion" SIAM J. Num. Anal., 41  
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Rieder and Faridani consider the FBP for semidiscrete data from the Radon transform in two dimensions. Semidiscrete in this case means that only the first variable, the radial one, is discretized. By considering certain specialized convolution kernels, they are able to prove that the FBP algorithm, using these types of kernels, can be rewritten as the exact Radon inversion formula with two interpolation operators added in. Then, using techniques from approximation theory about interpolation operators they are able to prove a bound for the  $L^2$  convergence of FBP as the discretization step size goes to zero, which turns out to be the best possible bound by previous results.