

# A range characterization of approximate discrete Radon transform (ADRT)

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In this talk, we will characterize the range of the single-quadrant approximate discrete Radon transform (ADRT). The ADRT is a fast discretization of the continuous Radon transform and has the interesting property that its single-quadrant version corresponding to a Radon transform with partial data has an exact inverse. We will show that the characterization is in the form of linear constraints that ensure the exact and fast inversion formula yields a square image in a stable manner.