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<https://doi.org/10.1088/1361-6420/33/4/044010>.

#### Abstract

We propose the superiorization of incremental algorithms for tomographic image reconstruction. The resulting methods follow a better path in its way to finding the optimal solution for the maximum likelihood problem in the sense that they are closer to the Pareto optimal curve than the non-superiorized techniques. A new scaled gradient iteration is proposed and three superiorization schemes are evaluated. Theoretical analysis of the methods as well as computational experiments with both synthetic and real data are provided.