# On the Optimality of a New Class of 2D Recursive Filters.

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*Abstract*: The purpose of this paper is to prove the minimum variance property of a new class of 2D, recursive, finite-dimensional filters. The filtering algorithms are derived from general basic assumptions underlying the stochastic modelling of an image as a 2D gaussian random field. An appealing feature of the proposed algorithms is that the image pixels are estimated one at a time; this makes it possible to save computation time and memory requirement with respect to the filtering procedures based on strip processing. Experimental results show the effectiveness of the new filtering schemes.