ANALYTICAL DESIGN OF BANDSTOP FIR FILTERS FOR IMAGE PROCESSING

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**Abstract**: Novel approach in the design of 2-D extremely narrow bandstop FIR filters is presented. The completely analytical design method is based on the 1-D optimal bandstop FIR filters. The 1-D FIR optimal bandstop filters are based on Zolotarev polynomial. Closed form formulas for the design of the filters are presented. One example demonstrates the design procedure. One application of the 2-D narrow bandstop FIR filter for image enhancement is presented.