Abstract

This paper proposes a methodology to design filters that extract information from noisy signals. From a mathematical point of view, a method is used based on homogeneous polynomially parameter-dependent (HPPD) matrices of arbitrary degree. The optimal filter is then obtained by solving a convex optimization problem using off-the-self software. To show the effectiveness of the proposed filter design methodology some examples are solved, and the solution is illustrated using computer simulations.


Index Terms

Computer Science

Keywords

Systems Theory Uncertainty Delays Filtering Linear Matrix Inequalities (lmi)