Abstract

Motion control and robust path tracking were the subject of this paper. A method based on fractional prefilter which is extended to multivariable systems is developed. This approach is based on the MIMO-QFT robust synthesis methodology combined with CRONE control. This paper incorporates Quantitative Feedback Theory (QFT) principles to CRONE control design procedure to solve the Two-Degree-Of-Freedom (TDOF) with Highly Uncertain Plants. A comparison between H∞ and CRONE controllers has been done. After that, synthesis of fractional prefilters is given with optimization of its parameters using integral gap criterion. To assess the proposed design, a numerical example has been considered.
Comparison between $H_\infty$ and CRONE Control Combined with QFT Approach to Control Multivariable Systems in Path Tracking Design

References

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Comparison between $H_{\infty}$ and CRONE Control Combined with QFT Approach to Control Multivariable Systems in Path Tracking Design

Index Terms

- Computer Science
- Control Systems

Keywords

- Path Tracking
- MIMO structures
- $H_{\infty}$ design
- CRONE control
- Robotics