

Report

IIR Filter Design

October 20, 2017

Write a report discussing your design of IIR filters based on the IIR lab you have conducted. Your report must be typed, single column, and should include the following

- Introduction:
 - Explain what is an IIR filter
 - filter specification, and
 - the different types of IIR filters.
- IIR Filter Design:
 - Explain the filter design process
 - Explain the difference between `num`, `den` being returned by the design functions vs. `z`, `p`, `k`
 - Explain the advantage of second-order systems
- Filter implementation
 - Discuss your implementation of the filter using both floating point and fixed point
- Results
 - Present your results from implementing the filter in using floating point and fixed point
 - Explain the impact of the order of the second order systems
- Conclusion