On the application of rational function systems

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Methods based on rational functions were proved to be efficient in various fields such as system identification, signal processing, etc. In previous works the number of the poles were fixed, and the optimization algorithms have been provided with respect to the positions of the poles only. In this talk we present a new optimization method that applies for the best positions and the number of the poles as well. Examples for theoretical and practical applications will be provided. They include ECG and EEG signal processing, and solving simple Laplace equation by using Dirichlet boundary condition on simply connected regions.

References

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