

## Pole stability of the rational system for ECG signal processing

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The previous results show that the variable rational projection methods are effective in many ECG signal processing problems, like modelling, compression, or classification. The strength of the transformation by rational functions is that the rational systems can be adapted to the signals. The selection of the system parameters, the so-called inverse poles, is a non-linear optimization problem, that can be performed various ways. Now we investigate the stability of the inverse poles selected by a constrained Hyperbolic Nelder–Mead method, with the presence of noise. We performed our tests on synthetic ECG heartbeats with additional noise, using various generation parameters and noise levels. We compare and interpret the results.

### References

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