

Progress Report on penalty method

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- Referring to [1], I implemented this barrier method on 1d-Linear control problem with bound constraints. So far, I didn't consider the ill conditioning of the Hessian yet, for the other part, just following the instructions on Matrix-Vector Products, Stopping criteria and the line search.
- After the implementation works, I applied extrapolation to accelerate the convergence. Unexpectedly, it didn't improve the performance, but instead, the convergence is slowed a lot with extrapolation.

References

- [1] Stephen Nash and Ariela Sofer , *A Barrier Method for Large-Scale Constrained Optimization*. ORSA Journal on Computing, Vol 5, No 1, 1993