POEMA

Meeting Type	***Online Learning Weeks***
Date	***03 June 2020***
Time	***16:00 – 17:30 CEST***
Talk	***Positively invariant set estimation***
Lecturer	***Didier Henrion – LAAS-CNRS***
No of attendants	***66***

1. Questions during the course

- Are the eigenvectors of Frobenius-Perron operator known ?
- The primal and dual convex problems depend on the discount rate \alpha. This cannot be optimized, because it multiplies the unknown measures/continuous functions. Is \alpha to be chosen arbitrarily? If so, does the feasibility of these convex problems depend on the particular value of \alpha?
- anything known about the convergence rate of the bounds?
- Can the approach be applied to approximate other "type" of sets/graph ? (partially in the previous question answer)
- Are there any difficulties in extending the analysis to continuous-time systems, especially in terms of convergence results?
- What is the (dis)advantages of Lasserre hierarchy approach in finding the approximations (or the volume) of an invariant set compared to other methods in theoretical and practical respects?
- Can another outer measure (not Lebesgue; e.g., Hausdorff) be used to compute the volume of the set X_{I} so we can design iterative methods converging in this other measure?

2. The chat history

- Volume approximation: http://homepages.laas.fr/henrion/papers/convergevol.pdf
- Victor Magron: optimal control problems: https://arxiv.org/pdf/1609.02762.pdf