Review of manuscript 16-1062.1

General Comment:

This is a good paper with an introduction of GRLP for MDP.

The authors have developed a deterministic way to handle LP for MDP and also new analytic tools for error analysis. Though this article introduces novel contributions to the field but the writing is a bit clumsy. Explanations of the lemmas and definitions are missing (as marked later). The authors don't provide intuition for most of the assumptions. Since the authors have additional space, more details should be provided.

Some of the terms in the definitions like discounted maximal inflations are never used directly and no reasoning behind the use of Lyapunov stability (which is a good and important part of the technique here) is given anywhere. For a contribution of this kind such an explanation is at least expected. So it's better if the authors give some explanations, elongate it a bit and make it readable to someone who isn't expert of both control and MDP, otherwise it is a very good piece of work.

Page 1: footnote 1. Valid statement for the scope of the paper. But what is the basic intuition behind the assumption? I t should be explained in one or two lines.

Page 2: paragraph before Definition II.1. Explain clearly. Kind of sudden to reader. Link it.

Page 2: Definition II.1, point iv. What is the intuition of this max inflation?

Page 3: equation (12). What is r_{e_i}? No explanation or introduction is given before this.

Page 3: lemma IV.1. Isn't it an abuse of notation. We redefine N'?

Page 6: g_{a}(s) = -(s+…). Why such a form? any reference?

Page 6: column 1 end. W_{r} is not mentioned earlier in the paper.

Page 6: column 1 end. Why such weight? any intuition or justification from application point?

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