Generally, the presentation of technical ideas in the paper is clear, although there are a few points where clarity could be improved, which are mentioned in more detail below.  
  
Technical comments:  
- Statement of Theorem 2. When I initially read this statement, I was confused by the difference between (i) and (ii). It may be worth mentioning that a binary search type method is used in Section 2, where \gamma is not known.

- How is the initial vertex of \bar{S} selected in the AVTA algorithm? The cost of doing this does not seem to be considered in the proof of Theorem 9.

- Experiment details:  
- Is the parameter \gamma is chosen using the binary search method + repeated calls to AVTA described in the appendix? This is unclear from the main text.  
- How were the parameters K and \epsilon (appearing the algorithm AVTA+CatchWord) chosen in these experiments?  
- From the description of AVTA+CatchWord, it sounds as though the pruning step is not included. Is this correct?

- In general, more explanation and interpretation of the results would be welcome -- what are the suspected reasons that AVTA outperformed other methods in the experiments?

- It would have been interesting to see what the actual robustness and weak-robustness coefficients are on the datasets used in the experiments section.

Minor comments:  
- Non-exhaustive list of typos:  
- abstract: "non-negative matrix" -> add completion/factorisation?  
- After Theorem 3: "\Gamma^\* robustness" -> "\Gamma^\*-robustness"  
- Top of appendix page 2: "\gamma^\*" -> "\Gamma^\*"  
- Some short discussion around Theorem 1 would be welcome.  
- There appears to be some inconsistency in notation which is potentially confusing:  
- \hat{S} is used to denote the working set of extremal points in Section 2, whilst in Section 4, it appears to denote random projections of the input point set.  
- The \varepsilon that appears in the definition of AVTA+CatchWord is presumably different from that appearing in the discussion of the "Results on Real Data" section  
- p4, right column below Lemma 1. "From Theorem 1 we know...". Is this really from Theorem 1 and not Lemma 1?