SUMMARY OF CHANGES TO "POINTWISE ASSOUAD DIMENSION FOR MEASURES"

ROOPE ANTTILA

I have implemented most of the changes suggested by the referee. The first three sections of the document received the most changes and especially the introduction got a big overhaul. The goal behind the changes to the introduction was to make it more concrete, make the main results stand out more and introduce the main definition earlier.

The referee made a comment about the shortening the paper, and the changes I have made, shortened the length of the document by four pages. In the following, I specify the changes I have made. The references to the old version will be marked with red and to the revised version with blue, i.e. Theorem 1.1 refers to Theorem 1.1 in the old version and Theorem 1.1 refers to Theorem 1.1 in the revised version.

- Fixed the typos and slight mistakes indicated by the referee.
- Moved the definitions of the Assouad dimension of the measure, the local dimensions of the measure and the pointwise Assouad dimension of the measure from Section 2 to Section 1, to make the introduction more concrete.
- Added some discussion to the introduction about similar concepts considered in [BBL17].
- Added Subsection 1.1 for the discussion of the main results in an attempt to make them stand out. Also added forward references to the main results in the beginning of each section.
- Removed Lemma 2.2 due to its simplicity.
- Combined the simple results Proposition 3.2, Proposition 3.3 and Lemma 3.4 to Proposition 3.1.
- Moved the examples illustrating the relationships of the pointwise Assouad dimension to their own subsection (Subsection 3.1). Removed unnecessary steps in the calculations of the examples.
- Moved Example 3.7 to the end of Section 6 as suggested by the referee. Also fixed the slight mistakes in the formulae for the Minkowski dimension and the Assouad dimension.
- Added Remark 3.2 about the definition of a pointwise lower dimension.
- Moved statement of the main result of Section 4 to the beginning of the Section 4 to make it stand out.
- Moved some definitions from Section 2 to a more natural spot in the beginning of Subsection 4.2. Also added the definitions for equivalence of measures and ergodicity.
- Fixed the constants in the proof of Proposition 4.7.
- Replaced the proof of Lemma 5.2 with a reference.

Date: November 8, 2022.

- Clarified discussion before the proof of Theorem 6.4.
- Numbered Question 1.
- Made many small changes to wording and sentence structure.
- Added thanks to the referee in the Acknowledgements.

Departures from suggested changes

The referee suggested removing the proof of Lemma 4.5 and referring to existing literature. Even though the proof is quite simple, I decided against this, since it seems to be difficult to track down in the literature.

References

[BBL17] A. Björn, J. Björn, and J. Lehrbäck, *Sharp capacity estimates for annuli in weighted* $\mathbb{R}^n$ *and in metric spaces.*, Math. Z. **286** (2017), 1173–1215.