REPORT ON "p-ADIC STABILITY IN LINEAR ALGEBRA" BY X. CARUSO, D. ROE, T. VACCON

The article makes a valuable contribution to our understanding of p-adic precision and champions a lattice-based precision model. Overall, the article is well-written and presents several interesting observations: for example, that it is possible to have an increase in precision using lattice methods.

A few small points:

- I didn't quite understand why all of the examples were taken over $\mathbb{Z}_p$ for $p = 2, 3$, since many "real-life" examples require working with $p \geq 5$.
- In §3.3, it was mentioned that the 3-adic precision polygon agrees with the Hodge polygon in more cases than the 2-adic precision polygon. The very large percentages seemed to suggest asymptotics for larger p, but none were given.
- In §3.1, the authors make a note regarding the observed number of lost digits in the coord-wise method versus the lattice method without attempting to give a heuristic. It would have been nice to see such a heuristic here.

Below are some typos we noticed:

- p. 2 c. 1 l. 11: "thought as" → "thought of as"
- p. 2 c. 1 l. -11: "familiy"
- p. 2 c. 2 l. 26: "There" → "These"
- p. 2 c. 2 l. -17,-18: $\tau_\nu(x)$ would be better typeset using `\begin{cases}...`
- p. 2 c. 2 l. -3: "neighborhood on" → "neighborhood of"
- p. 2 c. 2 footnote 2: "fullfilled"
- p. 3 c. 1 l. 6: "coordinate" → "coordinates"
- p. 3 c. 1 l. 15: "is highest" → "is the highest"
- p. 3 c. 1 l. -8: "and to taking" → "and taking"
- p. 3 c. 2 l. 14: "computed" → "computing"
- p. 3 c. 2 footnote 2: "loosing"
- p. 4 c. 1 l. -22: "growing" → "growth"
- p. 4 c. 2 l. 23: σ_i should be σ_j
- p. 4 c. 2 l. -19: missing parentheses around $\mathcal{O}_K$
- p. 5 c. 1 l. 1: "polygon" → "polygons"
- p. 5 c. 1 l. -12: "uniqueness" would perhaps be preferable to "unicity"
- p. 5 c. 2 l. -4: missing a word after "p-adic" ?
- p. 6 c. 1 l. 1: perhaps "has the natural structure of a K-manifold" instead?
- p. 6 c. 1 l. 28: "Grassmaniann"
- p. 6 c. 1 l. -9: "dimension" → "dimensional"
- p. 6 c. 2 l. -19: "value" → "values"
- p. 7 c. 2 l. -6: "integer" → "integers"
- p. 8 c. 2 l. 4: "integer" → "integers"
- p.8 [4]: "monsky-washnitzer"