November 17, 2017

This is a report for Ph.D. thesis *The tree property and the continuum function* written under my supervision by Šárka Stejskalová at Charles University, Faculty of Arts, Department of Logic, and submitted on October 1, 2017.

Šárka Stejskalová started her Ph.D. studies under my supervision in 2014. I have known her as a talented and hard-working student who took an interest in set theory already in her bachelor-level studies (I supervised her Bachelor degree and Master degree theses as well). She proved to be an excellent student who attacks hard problems with just a minor guidance from myself as the supervisor.

She produced several original results within the three-year period which are now submitted with high-quality journals. Four of these papers have already been accepted for publication: (1) *A survey of special Aronszajn trees* (joint with myself), Miscellanea Logica, Acta Univ. Car., volume X, pp. 73-91, 2015, (2) *Grigorieff forcing and the tree property*, to appear in Miscellanea Logica, Acta Univ. Car., 2017, (3) *The tree property at the double successor of a singular cardinal with a larger gap* (joint with Sy D. Friedman and myself) to appear in Annals of Pure and Applied Logic, (4) *The tree property and the continuum function below* $\aleph_\omega$ (joint with myself) to appear in Mathematical Logic Quarterly. The fifth paper *The tree property at* $\aleph_{\omega+2}$ *with a finite gap* (joint with Sy D. Friedman and myself) has been submitted. She successfully presented her results at international conferences: Logic Colloquium 2016 in Leeds, Winter School of Set Theory 2016 and 2017 in Hejnice, and Logic Colloquium 2017 in Stockholm.

The thesis is built around the original results (3)–(5) mentioned above. It is structured into 8 sections: Sections 1–4 introduce the basic concepts and provide the background for the original results which follow in Sections 5–7. Section 8 is devoted to open questions and further research.

The text is well-structured and gives the reader sufficient amount of background and explanation to follow the line of argument. In the introductory part of the work, I especially appreciate Section 3.3.3 which deals with projections and complete embeddings between forcing notions: the author collected various results which, while probably considered folklore, have not been properly written up in the available literature. The original research part (Sections 5–7) is written clearly and shows an excellent understanding of the topic. Editorial work is also very good and suggests that the author read the text carefully before submitting it.

I think that Šárka Stejskalová has great potential for independent scientific work and I recommend that her thesis is *approved with highest honors*.

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