Bergen, 30.04.2021

Report on Report on the Habilitation thesis of Dr. Andreas Emil Feldmann "Parameterized Approximation Algorithms in Network Design and Clustering"

The Habilitation thesis of Dr. Feldmann provides an overview of some of his results published within 2015--2020. Most of this work is in the area of parameterized approximation algorithms. The Thesis focuses on two areas of applications: network design and clustering. It consists of collecting the research papers of Dr. Feldmann, accompanied by a short introduction providing an overview of the Thesis.

The parameterized approximation is a new hot research area. Feldmann is one of the leading researchers in this new and vital area. The Thesis contains several important results on some fundamental problems in the area. The incomplete list of the advances included in the Thesis

- Obtaining tight computation bounds on strongly connected Steiner subgraphs in planar graphs;
- Development of approximation schemes for clustering in doubling dimensions;
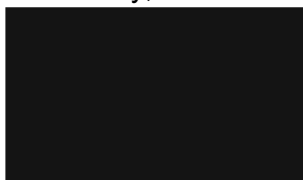- Study of embeddings into graphs of bounded treewidth.

The presented work is of the highest quality. The results of the Thesis published in the top and most prestigious journals and conferences, including two papers in SIAM J. Computing, an article in FOCS, and several papers in ICALP/STACS/ESA conferences.

Overall, the quality of the work is outstanding. The Thesis clearly indicates that Dr. Feldmann is an internationally established leader in his research field. I am confident that the Thesis corresponds to the level required for obtaining Habilitation.

Remark on the originality check done by Turnitin system.
The high percentage of coincidence in this check is because Dr. Feldmann´s Dissertation is a collection of reprints of several published papers co-authored by dr. Feldmann, accompanied by his commentary. That is why the coincidence is so high.

Sincerely,

Fedor V. Fomin
Professor of Computer Science
Algorithms Research Group