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PUBLIC LECTURE EVALUATION

Masaryk University
Faculty — Faculty of Science
Procedure field — Mathematics - Geometry
Applicant — Mgr. Lenka Zalabová, Ph.D.
Lecture date — March 11, 2020
Lecture topic — Symmetric spaces and their filtered generalizations
Persons present (number) — 23. (see attached list of attendees)
Designated evaluators (board members) —
Prof. RNDr. Josef Janyška, DSc.
Doc. RNDr. Martin Kolář, Ph.D.
Prof. RNDr. Miroslav Doupovec, CSc.

The candidate opened the lecture with motivational examples from symmetries of affine or Euclidean spaces and their generalization to manifolds. As a motivational example of geometric control theory, she described the motion of a disc rolling on a plane.

In the second part of the lecture, she introduced the concepts of symmetric and reflection space and presented results that are known for some special cases, e.g., conformal symmetric spaces, Hermitean spaces.

She paid special attention to symmetries of filtered spaces, which are the main area of her scientific interest. Her results include complete classifications of different types of homogeneous symmetric filtered manifolds and a description of their geometric properties using parabolic geometry methods.

Finally, she briefly focused on submaximally symmetric spaces.

The lecturer presented the results briefly and clearly.

All members of the committee evaluated the public lecture. Formatting of the slides as well as the oral presentation was presented in a clear way, which was understandable not only by the experts in the field but all broad audience. During the follow-up discussion after the lecture, Dr. Zalabová responded to all comments and questions.

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Conclusion

The lecture delivered by Lenka Zalabová, entitled "Symmetric spaces and their filtered generalizations" and delivered as part of the habilitation procedure, **demonstrated** sufficient scholarly qualifications and pedagogical capabilities expected of applicants participating in a habilitation procedure in the field of Mathematics – Geometry.

Date: March 11, 2020

Josef Janyška

Martin Kolář

Miroslav Doupovec