



Preface

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Accepted: 13 November 2023 / Published online: 14 November 2023

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This december issue closes our 2023 edition of the Jahresbericht. It contains two survey articles, one in mathematical physics, and another one in algebra, more precisely cohomology of Leibniz algebras.

The long article on locality principles in quantum field theory by Li Guo, Sylvie Paycha, and Bin Zhang offers a detailed and mathematically rigorous introduction into this field and makes precise in mathematical terms what one would like to call locality from a point of view of physics. I hope you will be pleased by the beauty of the mathematics presented in this article, such as I was, when I read this paper for the first time a couple of months ago.

The slightly shorter article by Friedrich Wagemann on his joint work with Jörg Feldvoss presents Leibniz algebras, a very active field in non associative algebra. The axioms of a Leibniz algebra is a weakened version of those of a Lie algebra. The bracket is not required to be antisymmetric, but something as a Jacobi identity is still valid for the bracket. Defining and studying a significant and rich cohomology theory of this structure is the purpose of this article, and it surveys nicely what is obtained so far.

The attentive reader of the Jahresbericht may have noticed that we only had a single book report this year. This contrasts what happened the years before, and I want to emphasize that this is not our intention. We would like to present reports, recommending and advertising nice monographs. So, please feel free, if you discover a mathematics monograph on whatever subject in mathematics, which you enjoyed reading, please send us a review. We will always be happy to recommend mathematics monographs to the readers of the Jahresbericht.

I hope you will enjoy reading this new volume.

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