Complex quaternionic manifolds with rotating circle action

Aleksandra Borówka
Institute of Mathematics, Jagiellonian University, Poland
aleksandra.borowka@uj.edu.pl

Complex quaternionic manifolds are quaternionic manifolds with distinguished integrable complex structure, and in this case there exists a unique quaternionic connection preserving the complex structure. If this connection preserves additionally some volume form, then we call such a manifold a special complex quaternionic manifold. In this talk we will compare and study the properties of these structures.We will also show a particular class of examples admitting a compatible circle action coming from quaternionic Feix–Kaledin construction. We will finish the talk by discussing what can be said about the complex quaternionic manifolds with compatible circle action in general.

Acknowledgements

Supported by Polish NCN, project number 2022/47/D/ST1/02197.

References

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