

# INTERNATIONAL BIWEEKLY ONLINE SEMINAR ON ANALYSIS, DIFFERENTIAL EQUATIONS AND MATHEMATICAL PHYSICS

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Coordinators: Prof. Alexey Karapetyants, Prof. Vladislav Kravchenko

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7 September 2023, 6 pm (UTC+3)

## On Hitchin-Thorpe inequality for four-dimensional compact Ricci solitons

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In this talk, we will discuss the geometry of 4-dimensional compact gradient Ricci solitons. We will show that, under an upper bound condition on the range of the potential function, a 4-dimensional compact gradient Ricci soliton must satisfy the classical Hitchin-Thorpe inequality. In addition, some volume estimates will be presented. In particular, we discuss some related open problems.

This is a joint work with Xu Cheng and Detang Zhou.

\*Seminar website: <https://msrn.sfedu.ru/sl>. The seminar uses Microsoft Teams online platform.

Please send questions to [ademp.seminar@gmail.com](mailto:ademp.seminar@gmail.com) (Tatiana Andreeva, scientific secretary).

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The seminar is organized by the coordinators Alexey Karapetyants and Vladislav Kravchenko within the activities of the Regional Mathematical Center of the Southern Federal University in collaboration with Institute of Mathematics, Mechanics and Computer Sciences of the Southern Federal University and the OTHA research group in Operator Theory and Harmonic Analysis.



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