

International scientific conference

**“Algebraic and Geometric
Methods of Analysis”**

Book of abstracts



May 28 - June 3, 2019

Odesa, Ukraine

Conference webpage: imath.kiev.ua/~topology/conf/agma2019/

LIST OF TOPICS

- Algebraic methods in geometry
- Differential geometry in the large
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- General and algebraic topology
- Dynamical systems and their applications
- Geometric problems in mathematical analysis
- Geometric and topological methods in natural sciences
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ФІТБ ОНАФТ

A Flat $(CHR)_3$ -curvature tensor in a Trans-Sasakian Manifold

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Recently, we defined a $(CHR)_3$ -curvature tensor in almost contact Riemannian manifolds([3]) using M. Prvanovic's paper ([4]).

On, 2009, A. A. Shaikh and Y. Matsuyama considered a trans-Sasakian manifold which is a generalization of a Kenmotsu and Sasakian manifold and got some interesting results([5]).

In this paper, we consider this tensor field in a trans-Sasakian manifold. Moreover, we define the notion of the $(CHR)_3$ -flatness in an almost contact Riemannian manifold. Then, we consider this notion in a trans-Sasakian manifold and determine the curvature tensor, the Ricci tensor and the scalar curvature. Finally, we get a condition which the Ricci tensor becomes a generalized quasi- or quasi-Einstein ([1], [2]).

REFERENCES

- [1] M. C. Chaki, On generalized quasi-Einstein manifolds, *Publ. Math. Debrecen*, **58** (2001), 683 – 691.
- [2] M. C. Chaki and R.K. Maity, On quasi-Einstein manifolds, *Publ. Math. Debrecen*, **57** (2000), 297 – 306.
- [3] K. Matsumoto, A new curvaturelike tensor field in an almost contact Riemannian manifold II, to appear.
- [4] M. Prvanovic, Conformally invariant tensors of an almost Hermitian manifold associated with the holomorphic curvature tensor, *J. Geom.* **103** (2012), 89-101.
- [5] A. A. Shaikh and Y. Matsuyama, On trans-Sasakian manifolds, *Sut J. of Mathematics*, **45**, No. 1 (2009), 25 – 41.

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