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Research Article

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[Modeling of active thermography through uncertainty quantification of parameters of the heat transfer equation](#)

Published On: November 19, 2019 | Pages: 051 - 057

Author(s): Arturo Ortiz Tapia*, Rumen Ivanov Tsonchev, Martín A. D'az Viera and Marlen Hernández Ortiz

Active thermography is an experimental technique used to analyze samples of materials or entire structures without destroying them, by means of a heat source, such as a laser beam of a given power. ...

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[An analysis of ammonia synthesis by the model of Selective Energy Transfer \(SET\)](#)

Published On: September 26, 2019 | Pages: 038 - 050

Author(s): Ragnar Larsson*

The SET theory implies that energy is transferred from the catalyst system via infrared radiation to the molecules that are supposed to react. In previous investigations it has been demonstrated that the activation of the reacting species-as long as the molecules are infrared active-can occur at low adsorption strength. However, for molecules that are IR inactive, e.g ...

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[The quadratic Poisson structures and related nonassociative noncommutative Zinbiel type algebras](#)

Published On: September 16, 2019 | Pages: 026 - 037

Author(s): Orest D Artemovych, Alexandr Balinsky and Anatolij K Prykarpatski*

There are studied algebraic properties of the quadratic Poisson brackets on nonassociative noncommutative algebras, compatible with their multiplicative structure. Their relations both with differentiations of the symmetric tensor algebras and Yang-Baxter structures on the adjacent Lie algebras are demonstrated. ...

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[The dispersionless completely integrable heavenly type Hamiltonian flows and their differential-geometric structure](#)

Published On: August 28, 2019 | Pages: 011 - 025

Author(s): Oksana E Hentosh, Yarema A Prykarpatsky, Alexandr Balinsky and Anatolij K Prykarpatski*

There are reviewed modern investigations devoted to studying nonlinear dispersiveless heavenly type integrable evolutions systems on functional spaces within the modern differential-geometric and algebraic tools. Main accent is done on the loop diffeomorphism group vector fields on the complexified torus and the related Lie-algebraic structures, generating dispersionl ...

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[Mid-point technique for calculating divergent integrals](#)

Published On: July 10, 2019 | Pages: 007 - 010

Author(s): M Abu-Shady*

A mid-point technique is introduced to overcome the difficulties in other techniques. The modified effective interaction quark potential which uses to calculate different properties of the NJL model such as the constituent quark mass, pressure, and energy density is solved using the present technique. The present method gives good accuracy for the mathematical problem ...

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[Black quanta. On the thermodynamics of the black holes](#)

Published On: July 02, 2019 | Pages: 005 - 006

Author(s): M Apostol*

It is shown that the quantized internal motion of the black holes consists of Planck quanta (Planck mass, length, time, etc), which may be called black quanta. The mass of the black hole is a integral multiple of the Planck mass, and the radius of the black hole (Schwarzschild radius) is an integral multiple of the Planck length. This circumstance arises from the p ...

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[Open Access](#) | [Research Article](#) | PTZAID:AMP-2-103

[Space Equations](#)

Published On: March 04, 2019 | Pages: 001 - 004

Author(s): Prince Jessii*

Trying to observe the reason behind the differences in the nature of space that exists on earth and on the outer space led to the path were space and gravity meets. This paper presents a theory which comprises of an already existing effect that has helped to determine the following; • Space constant. • The Relationship between Space and Gravity. • Formulation of Sp ...

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