

Gas Dynamic Theory of Local Quasigravity

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In the present work there was found a class of noninertial frames of reference, which satisfy Einstein "equivalency" principle more than the known noninertial frames - these are strongly swirling gaseous flows. Field intensity and potential in the mentioned frames of reference are similar to the corresponding values of natural gravity fields, but have the opposite sign. Scalar curvature of this space is negative and proportional to absolute gas temperature. There was obtained a new solution of Einstein equation which refers to type I in Petrov's classification for cylindrical symmetrical swirling ideal gas with variable angular velocity and nonzero pressure. The equation of state has a more complicated form than the known equations of state in theory of the vacuum.

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