EXACT COSMOLOGICAL SOLUTIONS
OF THE EINSTEIN — CARTAN EQUATIONS

A.M. Galiakhmetov

Donetsk National Technical University
(*51, Kirov Str., Gorlivka 84646, Ukraine;*
e-mail: ints@adi.gorlovka.net)

S u m m a r y

In the framework of the Einstein—Cartan theory, spatially flat cosmological models with a nonminimally coupled scalar field, ultrarelativistic gas, and stiff fluid are considered. Exact partial solutions of the gravitational and massless scalar field equations are obtained for an arbitrary coupling constant. It is shown that nonsingular models are possible in some cases. For the obtained solutions, restrictions on the coupling constant are found. The influence of sources on the character of the evolution of models is elucidated.