RELATIVISTIC WAVE EQUATIONS OF ARBITRARY SPIN IN QUANTUM MECHANICS AND FIELD THEORY, EXAMPLE SPIN S=2

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Relativistic wave equations for the particles of arbitrary spin suggested by Bhabha, Bargmann–Wigner, Rarita–Schwinger (for spin $s = 3/2$) and other authors are under consideration. The comparison with the equations introduced recently by the author in Ukr. J. Phys., Vol. 60, # 10. 985–1006 (2015) and J. Phys.; Conf. Ser. Vol. 670, 012047(1–16) (2016) is given. The three level consideration (relativistic canonical quantum mechanics, canonical Foldy–Wouthuysen type field theory, locally covariant field theory) is presented. The operator link between the relativistic canonical quantum mechanics and locally covariant field theory of arbitrary spin is found. The important partial example of spin s=2 case is considered in details.