The construction of a solution of a related system of the Laguerre type

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Abstract: The systems of the Laguerre type, which were obtained from the system of Horn by direct selection of parameters as well as by exponential transformation, are considered. For the construction of their normal-regular solution, which is depended on the Laguerre polynomial of two variables, the Frobenius- Latysheva method is applied. Classification of special curves by means of rank and anti rank, and the basic information about the peculiarities of construction of normal-regular solutions of such systems are presented. The main theorem on the existence of four linearly independent particular solutions, which are expressed in terms of the degenerate hypergeometric function of M.R. Humbert in the form of normally-regular series dependent on Laguerre polynomials of two variables, is proved.

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