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ON p-HYPERELLIPTICITY OF DOUBLY SYMMETRIC RIEMANN SURFACES

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Abstract

Studying commuting symmetries of p-hyperelliptic Riemann surfaces, Bujalance and Costa found in [**3**] upper bounds for the degree of hyperellipticity of the product of commuting $(M-q)$- and $(M-q')$-symmetries, depending on their separabilities. Here, we find necessary and sufficient conditions for an integer p to be the degree of hyperellipticity of the product of two such symmetries, taking into account their separabilities. We also give some results concerning the existence and uniqueness of symmetries from which we obtain a series of important results of Natanzon concerning M- and $(M-1)$-symmetries.

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