On $\mathbb{Z}_5$ reduction of soliton equations related to $sl(5)$ algebra

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with

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Recently a new approach to the integrable systems, extending and generalizing the ISM was formulated. It is based on an effective parametrization of the Riemann-Hilbert problem, which allows one to extend the class of Lax pairs and effectively derive only the corresponding NLEE as compatibility condition of two linear problems. This method is based on the possibility to treat the solution of the RHP as a fundamental analytic solution of the Lax pair, and then to apply the dressing Zakharov-Shabat method for deriving the soliton solutions of the NLEE. The aim of the present paper is to extend Mikhailov $\mathbb{Z}_5$ reduction group to the parametrization of the $\mathbb{Z}_5$ RHP. The NLEE that we obtained are dispersionless.

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