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## Discrete, $q$ -discrete deformations of associative algebras and integrable systems

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### **Abstract**

Discrete and  $q$ -discrete deformations of finite and infinite-dimensional associative algebras are studied. It is shown that such deformations are governed by discrete and  $q$ -discrete integrable systems like discrete associativity equation, discrete Gelfand–Dickey equations and discrete and  $q$ -discrete KP hierarchy.