

Equivalence of formulations of the MKP hierarchy and its polynomial tau-functions

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Abstract. We show that a system of Hirota bilinear equations introduced by Jimbo and Miwa defines tau-functions of the modified KP (MKP) hierarchy of evolution equations introduced by Dickey. Some other equivalent definitions of the MKP hierarchy are established. All polynomial tau-functions of the KP and the MKP hierarchies are found. Similar results are obtained for the reduced KP and MKP hierarchies.

Keywords and phrases: KP and MKP hierarchies, tau-functions, wave functions, formal pseudo-differential operators, Schur polynomials

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