Vasil'ev, S. Kh.

Fundamental domains of real-valued solutions of the KP equations. (English) Zbl 0682.35098

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The fundamental domains of real valued solutions of the Kadomtsev- Petviashvili equation, based on a Riemann theta function of genus g are discussed. There are two types of KP equation, KP1 and KP2 which differs by the sign. The genus 2 and genus 3 solutions of KP1 and KP2 are given. These problems are also discussed by *B. A. Dubrovin* [The geometry of Abelian varieties, Riemann surfaces and nonlinear equations, Doctorate thesis, Moscow (1984)] and by *H. Segur* and *A. Finkel* [Stud. Appl. Math. 73, 183-220 (1985; Zbl 0597.76018)].

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MSC:

35Q99 Partial differential equations of mathematical physics and other areas of application
30F20 Classification theory of Riemann surfaces
14K25 Theta functions and abelian varieties

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algebraic curves; Kadomtsev-Petviashvili equation; Riemann theta function