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Whitham modulation theory for the Kadomtsev-Petviashvili equation

In this talk we present the derivation of the genus-1 KP-Whitham system, namely the Whitham modulation equations for both variants of the Kadomtsev-Petviashvili (KP) equation. We also discuss the basic properties of the KP-Whitham system and show how it can be used to study the stability of the genus-1 solutions of the KP equation. This is joint work with M.J. Ablowitz and G. Biondini.