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Nonstationary bilinear control problem: a new view.

A new method of solving the nonstationary bilinear control problems with the initial end of an optimal trajectory fixed and equality conditions at its final end will be presented. This method named *The optimality principle for the bilinear control problem* is partially based on the classical Pontryagin's maximum principle. Presented method makes possible to realize the complete synthesis in various nonstationary control problems including the problems where the sliding mode takes place. We shall demonstrate its high efficiency from both theoretical and practical points of view.