1035-05-1216 **Marko Petkovšek*** (Marko.Petkovsek@fmf.uni-lj.si), Department of Mathematics, Faculty of Mathematics and Physics, Jadranska 19, SI-1000 Ljubljana, Slovenia. *Solving Multivariate Linear Recurrences in Wedges.*

Many problems of combinatorial enumeration can be reduced to solving multivariate linear recurrences with constant coefficients in wedge-like domains. We survey some results on existence and uniqueness of solutions to such recurrences, on the algebraic nature of their generating functions, and on the methods for solving the corresponding functional equations, in particular the so-called *kernel method*. We also present a prototype *Mathematica* package for obtaining explicit solutions when these generating functions are algebraic of low degree. (Received September 19, 2007)