

8th International Conference on Symmetries and Integrability of Difference
Equations (SIDE8) **June 22–28, 2008**
8^e Conférence internationale “Symétrie et intégrabilité des équations aux
différences” (SIDE8) **22–28 juin, 2008**

Classification of integrable difference equations using multiscale techniques

Rafael Hernandez-Heredero

Depto. Matemática, EUIT Telecomunicación
Universidad Politécnica de Madrid (UPM)
Ctra. Valencia Km. 7
Madrid, Madrid 28031
ESPAÑA

rafaahh@euitt.upm.es

Abstract

We show how multiscale perturbative developments can be used to impose integrability conditions on families of difference equations. We will apply this method to the case of equations in a square two-dimensional lattice, with differences up to the second order.