1014-39-1046Andreas Ludwig Ruffing, Department of Mathematics, TU Munich, Boltzmannstrasse 3, 85747Munich, Germany, and Maria Meiler* (ruffing@ma.tum.de), Department of Mathematics, TU
Munich, Boltzmannstrasse 3, 85747 Munich, Germany. Diffusion Equations on Basic Linear
Grids. Preliminary report.

A discretization of the diffusion equation is considered on a basic linear grid, where the main ingredient are basic difference equations. The solutions under consideration fulfill the property of square integrability generalizing the classical similarity solution of the conventional diffusion equation. (Received September 27, 2005)