

Contents

1 Effective methods in \mathcal{D}-modules.	1
1.1 Motivations and introduction to the theory of \mathcal{D} -modules. (<i>B. Malgrange</i>).	3
1.2 \mathcal{D} -modules : an overview towards effectivity. (<i>Ph. Maisonobe</i>).	21
2 Theoretical aspects in dynamical systems.	57
2.1 Introduction to the Ecalle theory (<i>E. Delabaere</i>).	59
2.2 Perturbation analysis of nonlinear systems (<i>K. R. Meyer</i>).	103
3 Normal forms.	141
3.1 Normal forms of differential systems (<i>J. Della Dora, L. Stolovitch</i>).	143
3.2 Versal normal form computation and representation theory (<i>J. A. Sanders</i>).	185
3.3 Painlevé analysis and normal forms (<i>L. Brenig, A. Goriely</i>).	211
3.4 Normal forms and Stokes multipliers of nonlinear meromorphic differential equations (<i>Y. Sibuya</i>).	239