

## General Table of Contents

Part I: Solutions of the Einstein Vacuum Equations, Lydia Bieri	1
Chapter 1. Introduction	11
Chapter 2. Preliminary Tools	43
Chapter 3. Main Theorem	51
Chapter 4. Comparison	69
Chapter 5. Error Estimates	105
Chapter 6. Second Fundamental Form $k$ : Estimates for the Components of $k$	167
Chapter 7. Second Fundamental Form $\chi$ : Estimating $\chi$ and $\zeta$	189
Chapter 8. Uniformization Theorem	221
Chapter 9. $\chi$ on the Surfaces $S$ – Changes in $r$ and $s$	241
Chapter 10. The Last Slice	247
Appendix A. Curvature Tensor – Components	283
Appendix B. Uniformization Theorem: Standard Situation, Cases 1 and 2	285
Bibliography	291
Index	293
Part II: Solutions of the Einstein-Maxwell Equations, Nina Zipser	297
Chapter 1. Introduction	307
Chapter 2. Norms and Notation	321
Chapter 3. Existence Theorem	337
Chapter 4. The Electromagnetic Field	343
Chapter 5. Error Estimates for $F$	363

Chapter 6.	Interior Estimates for $F$	413
Chapter 7.	Comparison Theorem for the Weyl Tensor	425
Chapter 8.	Error Estimates for $W$	439
Chapter 9.	Second Fundamental Form	453
Chapter 10.	The Lapse Function	465
Chapter 11.	Optical Function	471
Chapter 12.	Conclusion	485
Bibliography		491