

Contents

| | |
|--|-----|
| Preface | vii |
| 1 Gaussian curvature equation | 1 |
| 2 Moser–Trudinger inequality (on the sphere) | 9 |
| 3 Polyakov formula on compact surfaces | 17 |
| 4 Conformal covariant operators – Paneitz operator | 25 |
| 5 Functional determinant on 4-manifolds | 30 |
| 6 Extremal metrics for the log-determinant functional | 38 |
| 7 Elementary symmetric functions | 50 |
| 8 A priori estimates for the regularized equation $(*)_\delta$ | 56 |
| 9 Smoothing via the Yamabe flow | 74 |
| 10 Deforming σ_2 to a constant function | 79 |