

## Hausdorff Convergence of Riemannian Manifolds and Its Applications

Kenji Fukaya

### Preface

#### Chapter 1 Hausdorff Convergence

- § 1 Definition and elementary properties
- § 2 Precompactness theorem
- § 3 Rigidity theorem
- § 4 Convergence theorem
- § 5 Smoothing Riemannian metric
- § 6 Pointed and equivariant Hausdorff distances

#### Chapter 2 Collapsing Riemannian Manifolds

- § 7 Pseudo fundamental group
- § 8 Almost flat manifold I
- § 9 Almost flat manifold II
- § 10 Examples
- § 11 A compactification of  $\mathcal{M}(n, D)$
- § 12 Fibre bundle theorem
- § 13 Margulis' lemma

#### Chapter 3 Applications

- § 14 Finiteness theorems
- § 15 Pinching theorems
- § 16 Aspherical manifolds
- § 17 Minimal volume
- § 18 Telescope
- § 19  $T$ - and  $F$ - structures

---

Received June 30, 1989.

This work is partially supported by Inoue foundation and Grant-in-Aid for Scientific Research (No.63740014).