

CONTENTS

| | |
|---|-----|
| Introduction | 1 |
| § 1 Bordism groups of orientation preserving diffeomorphisms | 12 |
| § 2 Report about equivariant Witt groups | 17 |
| § 3 The isometric structure of a diffeomorphism | 22 |
| § 4 The mapping torus of a diffeomorphism | 27 |
| § 5 Fibrations over S^1 within their bordism class and the computation of Δ_* | 33 |
| § 6 Addition and subtraction of handles | 41 |
| § 7 Proof of Theorem 5.5 in the odd-dimensional case | 51 |
| § 8 Proof of Theorem 5.5 in the even-dimensional case | 54 |
| § 9 Bordism of diffeomorphisms on manifolds with additional normal structures like Spin-, unitary structures or framings; orientation reversing diffeomorphisms and the unoriented case . | 72 |
| § 10 Applications to SK-groups | 95 |
| § 11 Miscellaneous results: Ring structure, generators, relation to the inertia group | 101 |
| References | 110 |
| Appendix by Neal W. Stoltzfus | |
| The algebraic relationship between Quinn's invariant for open book decomposition bordism and the isometric structure . . | 115 |
| Subject index | 142 |