

Contents

Introduction	1
Chapter 1. Review of THH , TR , and TC	5
1.1. Review of spectral categories	5
1.2. Review of the construction of THH , TR , and TC	8
1.3. Review of the invariance properties of THH	12
1.4. The Dennis-Waldhausen Morita Argument	15
Chapter 2. THH and TC of simplicially enriched Waldhausen categories	19
2.1. Simplicially enriched Waldhausen categories	20
2.2. Spectral categories associated to simplicially enriched Waldhausen categories	24
2.3. The S_\bullet and Moore nerve constructions	28
2.4. The Moore S'_\bullet construction	32
2.5. THH , TC , and the cyclotomic trace	34
Chapter 3. K -theory theorems in THH and TC	41
3.1. The Additivity Theorem	41
3.2. The Cofiber Theorem	43
3.3. The Localization Theorem	46
3.4. The Sphere Theorem	49
3.5. Proof of the Sphere Theorem	54
Chapter 4. Localization sequences for THH and TC	63
4.1. The localization sequence for THH of a discrete valuation ring	64
4.2. The localization sequence for $THH(ku)$ and related ring spectra	68
4.3. Proof of the Dévissage Theorem	72
Chapter 5. Generalization to Waldhausen categories with factorization	79
5.1. Weakly exact functors	80
5.2. Embedding in simplicially tensored Waldhausen categories	84
5.3. Spectral categories and Waldhausen categories	91
Bibliography	95
Index	99