

# ゼミノート #12

## Quotients of Algebraic Spaces

七条彰紀

2019 年 8 月 3 日

### 目次

1	Notes on Topology	1
1.1	Submersive Morphism . . . . .	1
1.2	Constructible Topology . . . . .	1
2	Quotients	1
2.1	Definitions . . . . .	1
2.2	Propositions : Paraphase . . . . .	2

このノートでは一貫して,  $S :: \text{algebraic space}$  とし, groupoid in algebraic  $S$ -space  $:: R \rightrightarrows_t^s X$  を考える.

## 1 Notes on Topology

### 1.1 Submersive Morphism

### 1.2 Constructible Topology

## 2 Quotients

### 2.1 Definitions

定義 2.1 (equivariant morphism)

定義 2.2 ( $j, j_Y$ )

stabilizer はまたの機会に定義する.

Zariski quotient

Constructible quotient

Topological quotient  
Strongly topological quotient  
Geometric quotient  
Strongly geometric quotient

定義 2.3 (universal, uniform quotient)

注意 2.4

geometric quotient in [1]

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## 2.2 Propositions : Paraphase

### 参考文献

- [1] David Mumford, John Fogarty, and Frances Kirwan. *Geometric Invariant Theory (Ergebnisse der Mathematik und ihrer Grenzgebiete 34)*. Springer-Verlag, 3rd ed. edition, 1992.