

ADAMS SPECTRAL SEQUENCE-II

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1. REVIEW

We first review some basic preliminaries on the lecture of Adams spectral sequence-I.

1.1. Spectrum.

Definition 1.1. We can define a **spectrum** E as the following two equivalent ways:

- A sequence of pointed spaces $\{E_n\}_{n \in \mathbb{Z}}$ together with morphisms $\sigma_n : \Sigma E_n \rightarrow E_{n+1}$.
- A sequence of pointed spaces $\{E_n\}_{n \in \mathbb{Z}}$ together with isomorphisms $\tilde{\sigma}_n : E_n \xrightarrow{\sim} \Omega E_{n+1}$.

Theorem 1.2 (Brown Representability Theorem). *For any reduced*

1.2. Eilenberg-MacLane Spectrum.

1.3. Cohomology Operations and Stable Cohomology Operations.

2. HOPF ALGEBRA

3. STEENROD ALGEBRA

4. E-ADAMS SPECTRAL SEQUENCE

4.1. Classic Adams Spectral Sequence.

REFERENCES