

Motivating de Rham cohomology why?

Simon Xiang

University of Texas at Austin

April 14, 2021

Prerequisites

Here are some things I'll assume you know about:

Prerequisites

Here are some things I'll assume you know about:

- Linear algebra, including quotient spaces, exact sequences

Prerequisites

Here are some things I'll assume you know about:

- Linear algebra, including quotient spaces, exact sequences
- Multivariable calculus up to Green's theorem and friends

Prerequisites

Here are some things I'll assume you know about:

- Linear algebra, including quotient spaces, exact sequences
- Multivariable calculus up to Green's theorem and friends
- Analysis, including the notions of open and closed sets

Prerequisites

Here are some things I'll assume you know about:

- Linear algebra, including quotient spaces, exact sequences
- Multivariable calculus up to Green's theorem and friends
- Analysis, including the notions of open and closed sets

It would be helpful to know

- What groups are,

Prerequisites

Here are some things I'll assume you know about:

- Linear algebra, including quotient spaces, exact sequences
- Multivariable calculus up to Green's theorem and friends
- Analysis, including the notions of open and closed sets

It would be helpful to know

- What groups are,
- And basic topology.

Some vector calculus

Example
consider

Some vector calculus

Example

consider

why is this green??

Some vector calculus

Example

consider

why is this green??

Theorem

ok

Some vector calculus

Example

consider

why is this green??

Theorem

ok

Proof.

pls □

Definition

what^{no}

- hora

Definition

what^{no}

- hora
- mitete

Definition

what^{no}

- hora
- mitete
- te ne

what's the point?

text

$$R_{\mu\nu} - \frac{1}{2}Rg_{\mu\nu} + \Lambda g_{\mu\nu} = \frac{8\pi G}{c^4}T_{\mu\nu}$$

- 1 what's the
- 2 point?

text

$$\nabla_\beta T^{\alpha\beta} = T^{\alpha\beta}_\beta = 0$$

- 1 of
- 2 living?