

DIFFERENTIAL FORM IN ALGEBRAIC TOPOLOGY

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PROGRAM

- (1) The de Rham complex on \mathbb{R}^n .
- (2) The Mayer–Vietoris sequence.
- (3) Orientation and integration.
- (4) Poincaré Lemmas.
- (5) The Mayer–Vietoris argument.
- (6) The Thom isomorphism.
- (7) The nonorientable case.
- (8) The generalized Mayer–Vietoris principle.
- (9) Examples and applications.
- (10) Presheaves and Čech cohomology.
- (11) Sphere bundles.
- (12) The Thom isomorphism and Poincaré duality revisited.
- (13) The spectral sequence of a filtered complex.
- (14) Cohomology with integer coefficients.
- (15) The path fibration.

REFERENCES

- [1] R. Bott and L. W. Tu, *Differential Forms in Algebraic Topology*, Springer 1982.