Soft-Collinear Effective Theory

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Lecture 1: Invitation

1. Soft Effective Theory: soft photons in electron scattering

2. Expansion of loop integrals and the method of regions

Lecture 2: The Sudakov problem

1. Momentum regions in the Sudakov form factor

2. Soft-Collinear Effective Theory: Lagrangian

Lecture 3: Factorization and resummation

1. Soft-collinear Effective Theory: external operators

2. Decoupling transformation and factorization

3. Resummation by RG evolution

Lecture 4: Applications in jet physics

1. Factorization and resummation for the event shape variable thrust

2. Resummation for jet processes

References

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