The planar topologies in QCD corrections to Z boson pair production

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Outline

1. The planar topologies in QCD corrections to Z boson pair production

2. Two topologies

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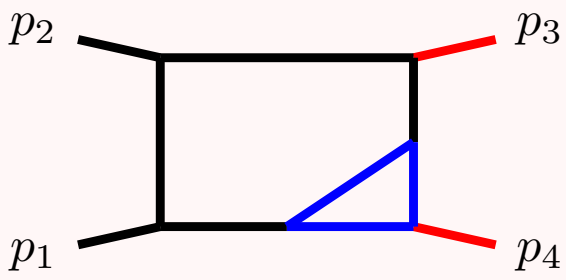
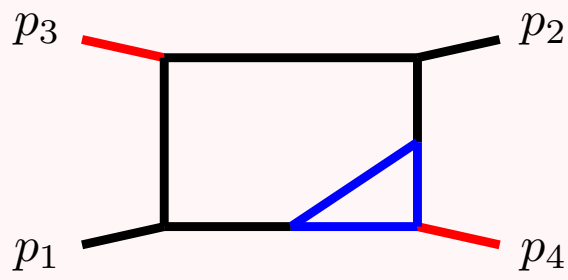
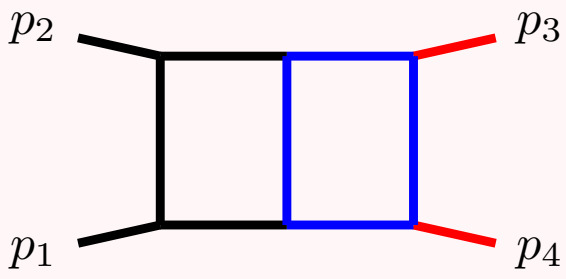
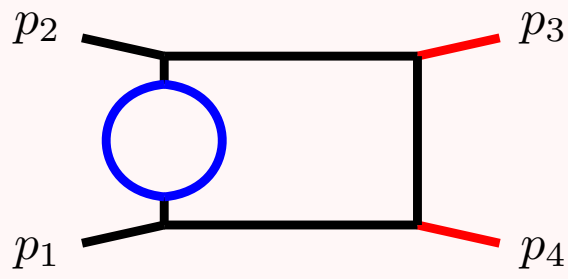
2. Two topologies
   - Roots involved the root

Planar topologies in quark channel

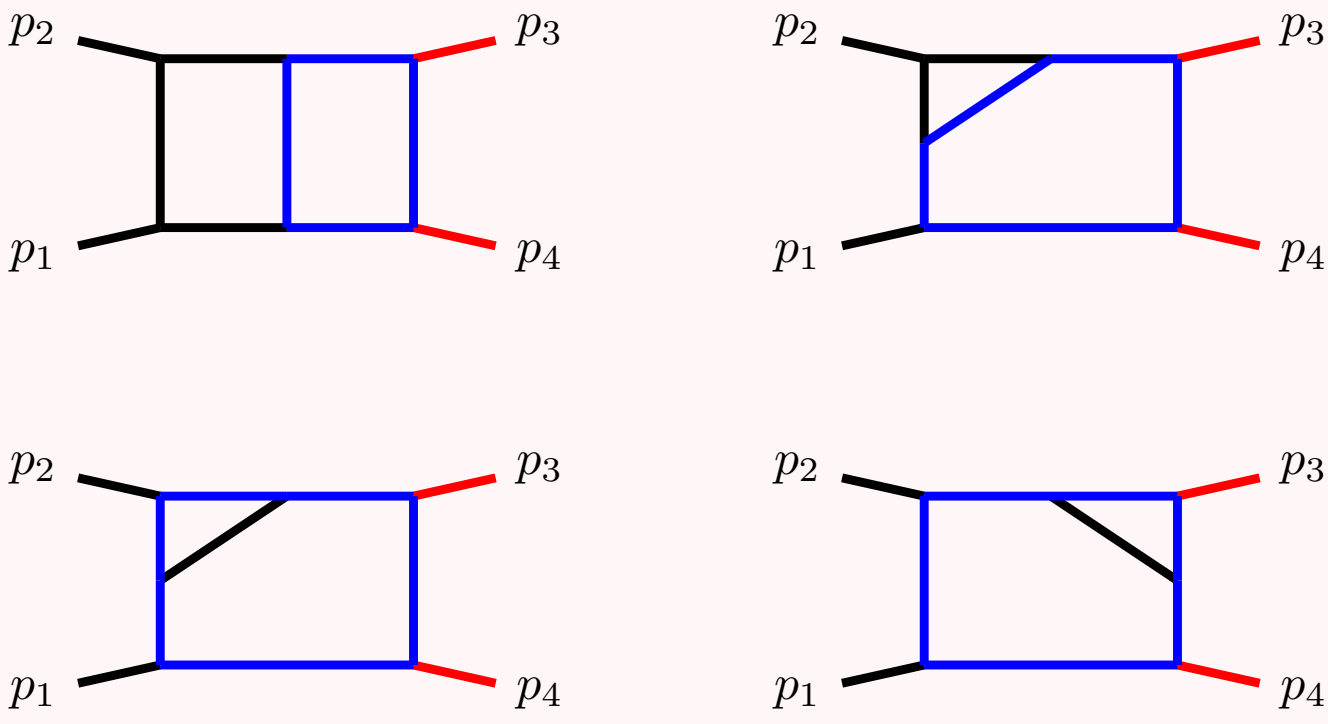




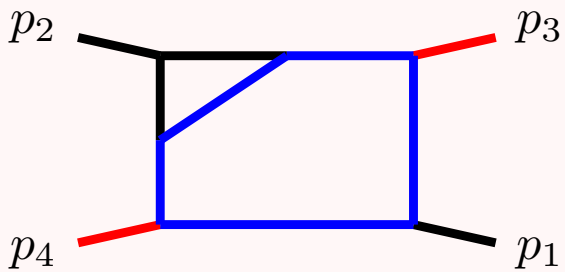


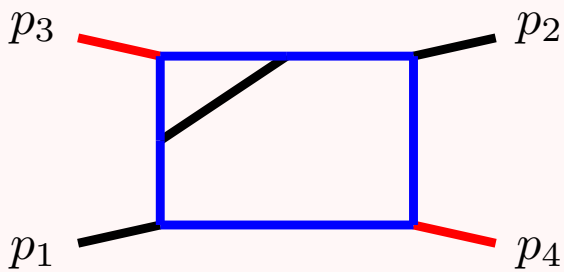


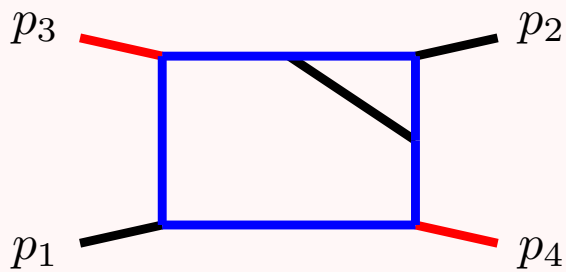
Planar topologies in gluon channel



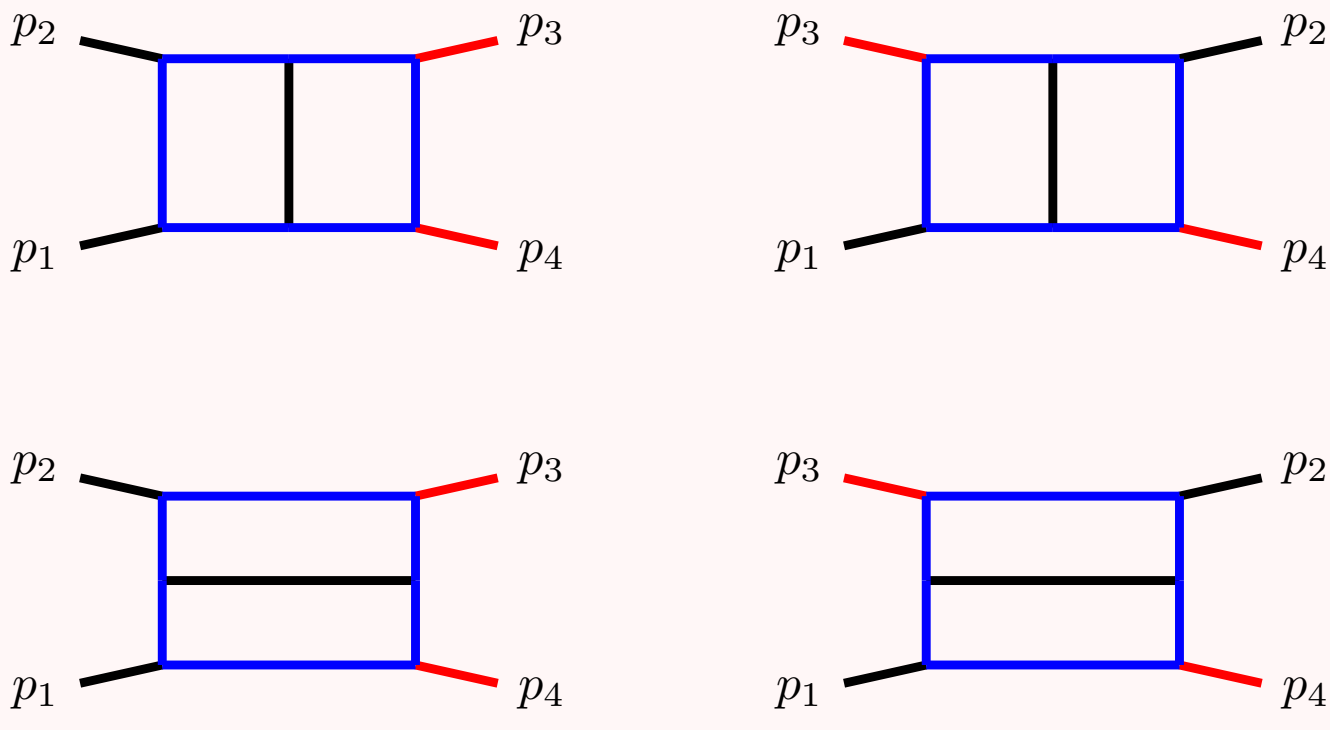
Planar topologies in gluon channel







Planar topologies in gluon channel



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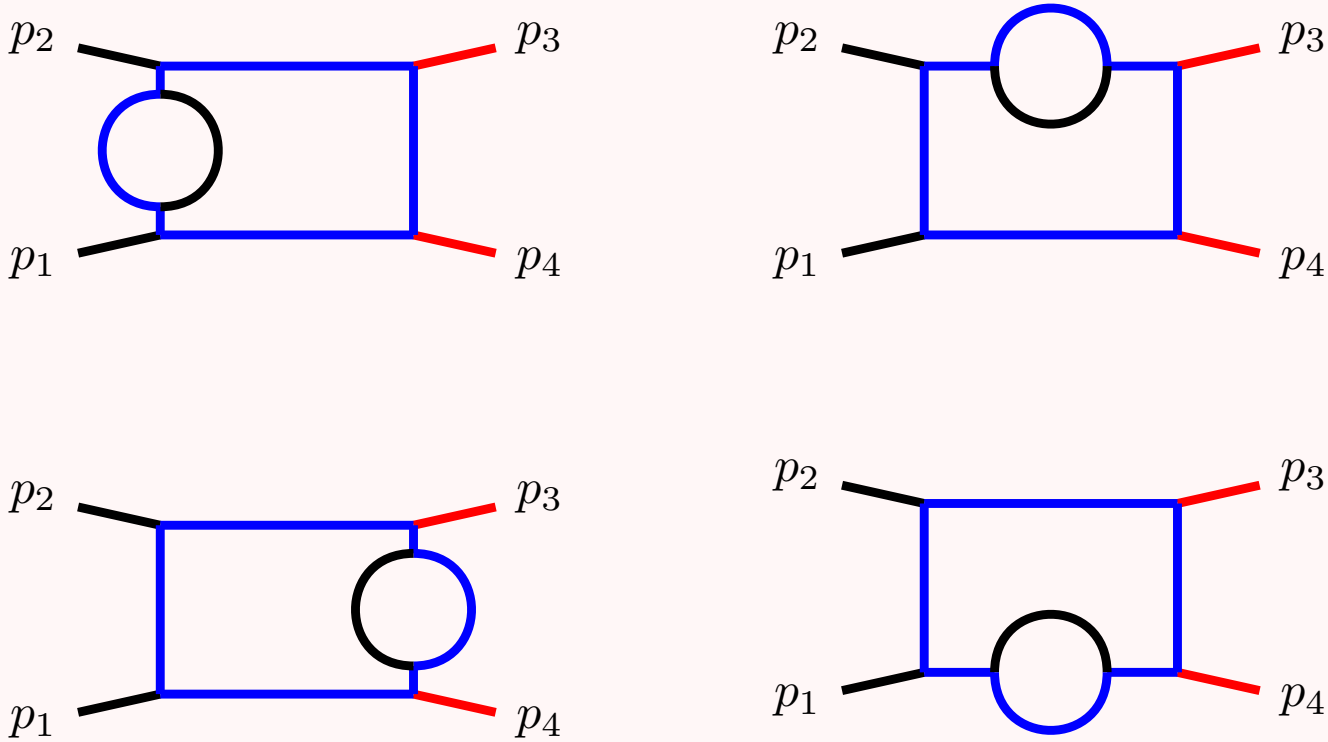
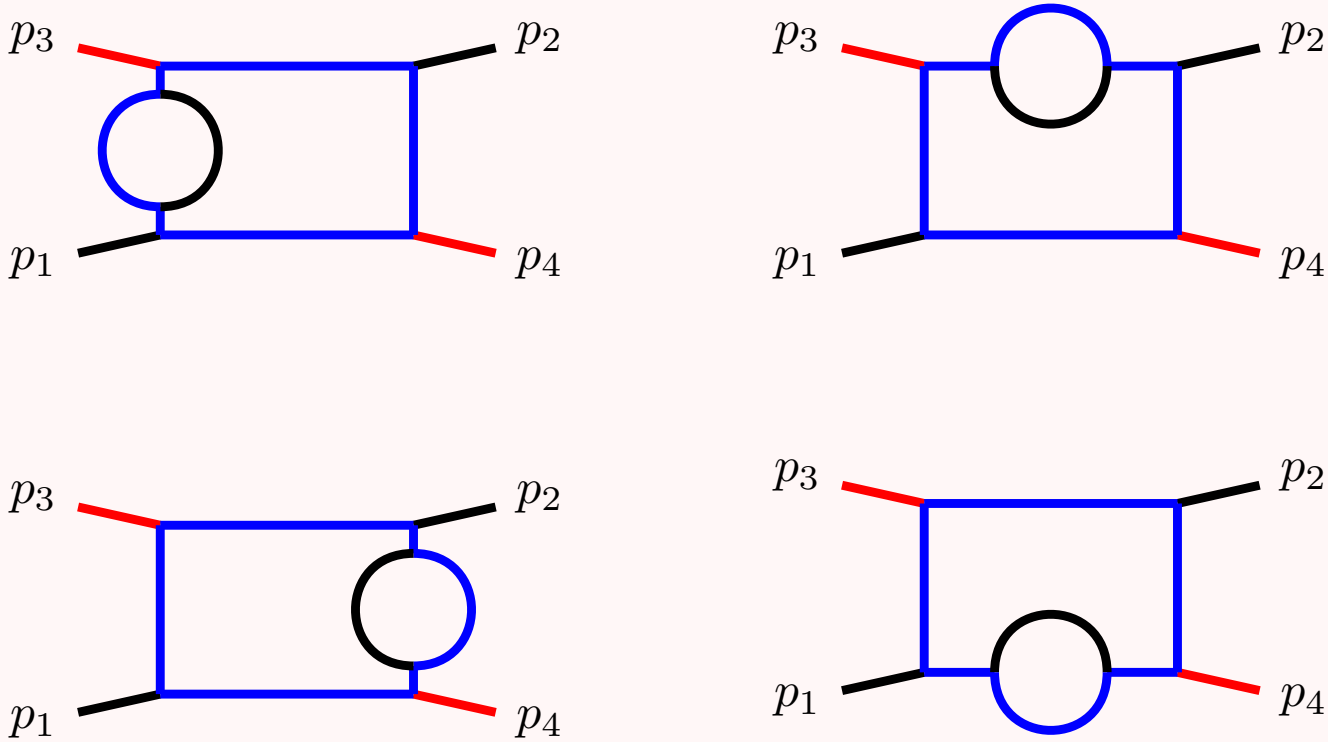
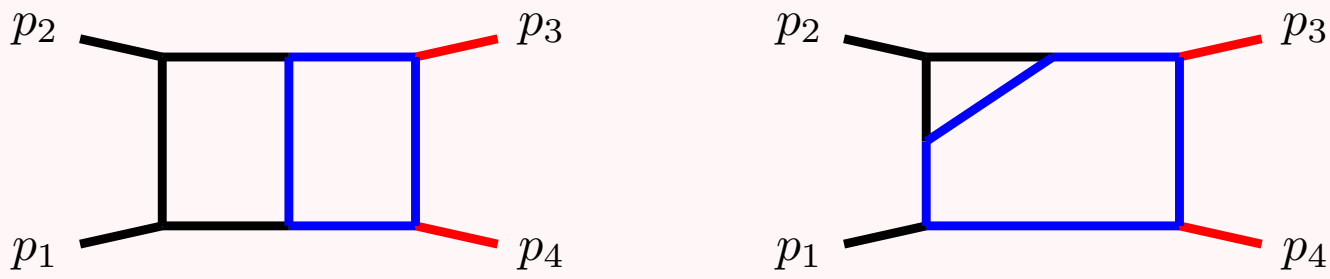


Planar topologies in gluon channel



Planar topologies in gluon channel



- 56 MIs
- Roots involved the root:

$$\Lambda_1 = \sqrt{(-4m_t^2 + m_Z^2 - \rho)} \quad \Lambda_2 = \sqrt{(4m_t^2 + m_Z^2 - \rho)}$$

$$\Lambda_3 = \sqrt{(-4m_t^2 + m_Z^2 + \rho)} \quad \Lambda_4 = \sqrt{(4m_t^2 + m_Z^2 + \rho)}$$

$$\rho = \sqrt{(4sm_t^2 + (m_Z^2 - 4m_t^2)^2)}$$

Why only these two sectors?

I was young.

Thanks!