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The dual Meissner effect due to Abelian Dirac-type monopoles in QCD

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Quark confinement mechanism is one of unsolved important problems in QCD. In the dual Meissner picture of color confinement, it is considered that the color flux tube between static quarks is caused by the condensation of color magnetic monopoles in the QCD vacuum. In this talk, we show new results of the dual Meissner effect due to the violation of non-Abelian Bianchi identity corresponding to Abelian Dirac-type monopoles in QCD. In particular, we discuss the vacuum type by evaluating the Ginzburg-Landau parameter through the measurements of Abelian electric field and Abelian squared monopole density in SU(3) gauge theory without gauge fixing.

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