

Lattice Study of Roberge–Weiss Tricritical Point in Heavy-Quark Region

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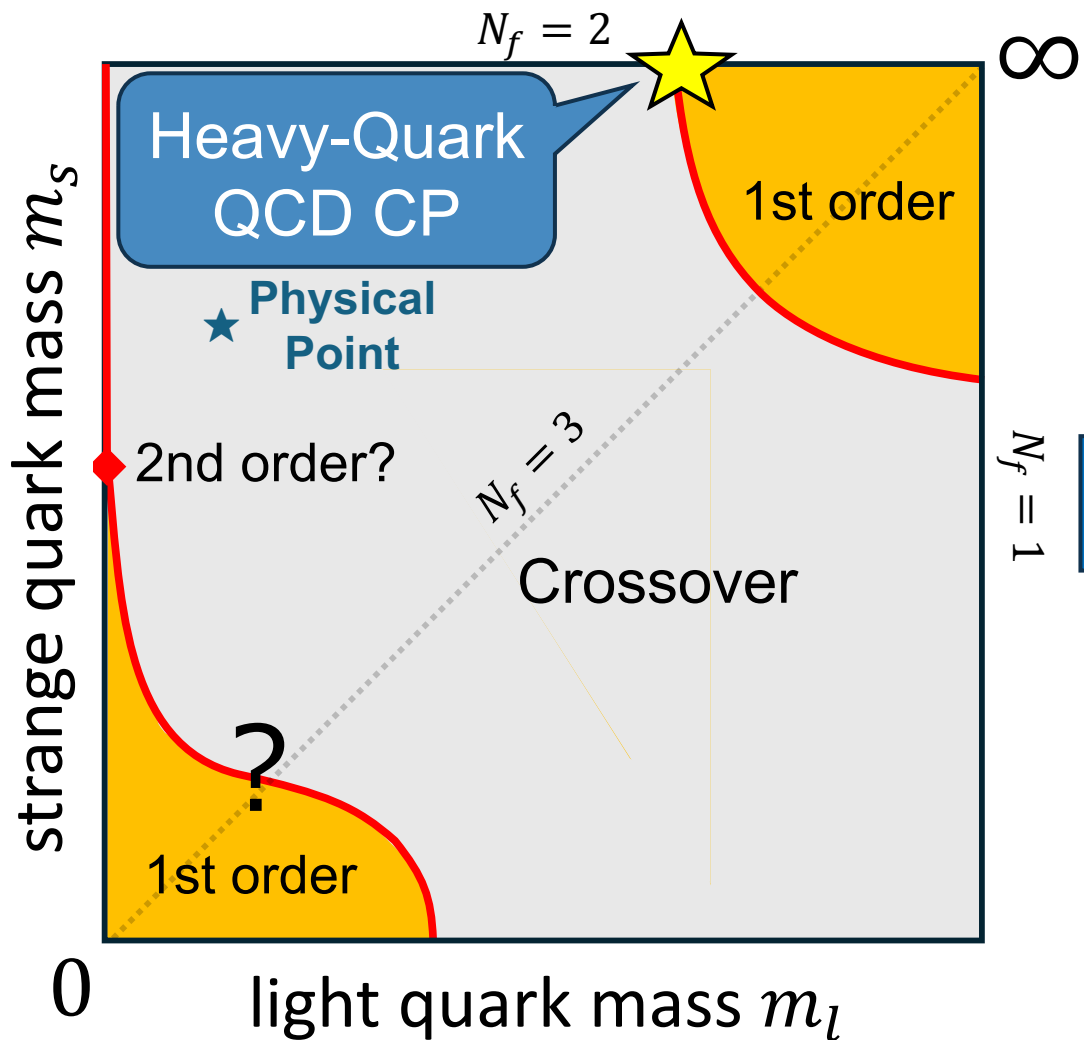
Buenas Ideas on the QCD Phase Diagram, YITP May 27, 2026



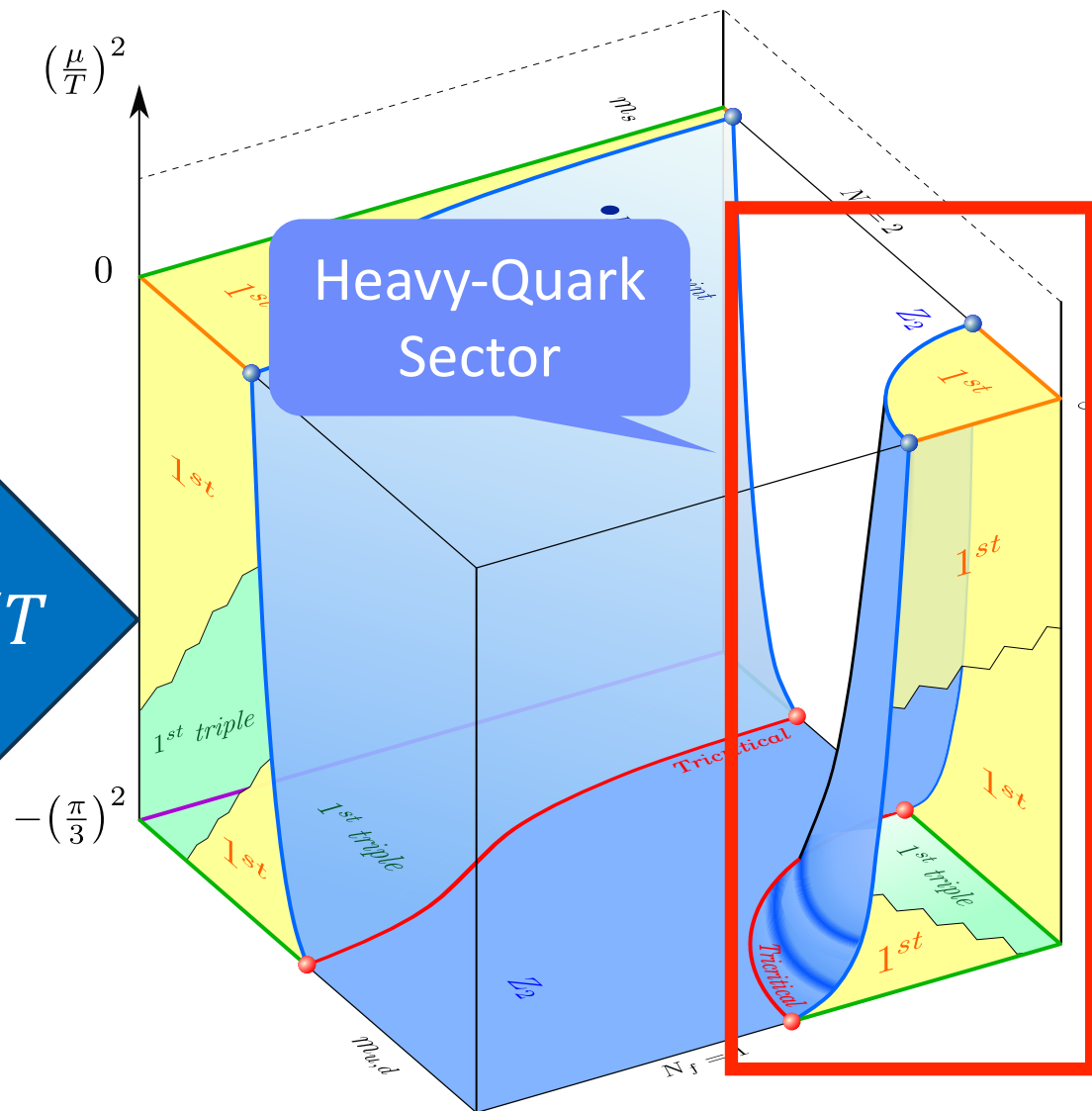
3d-Columbia Plot

Columbia Plot :

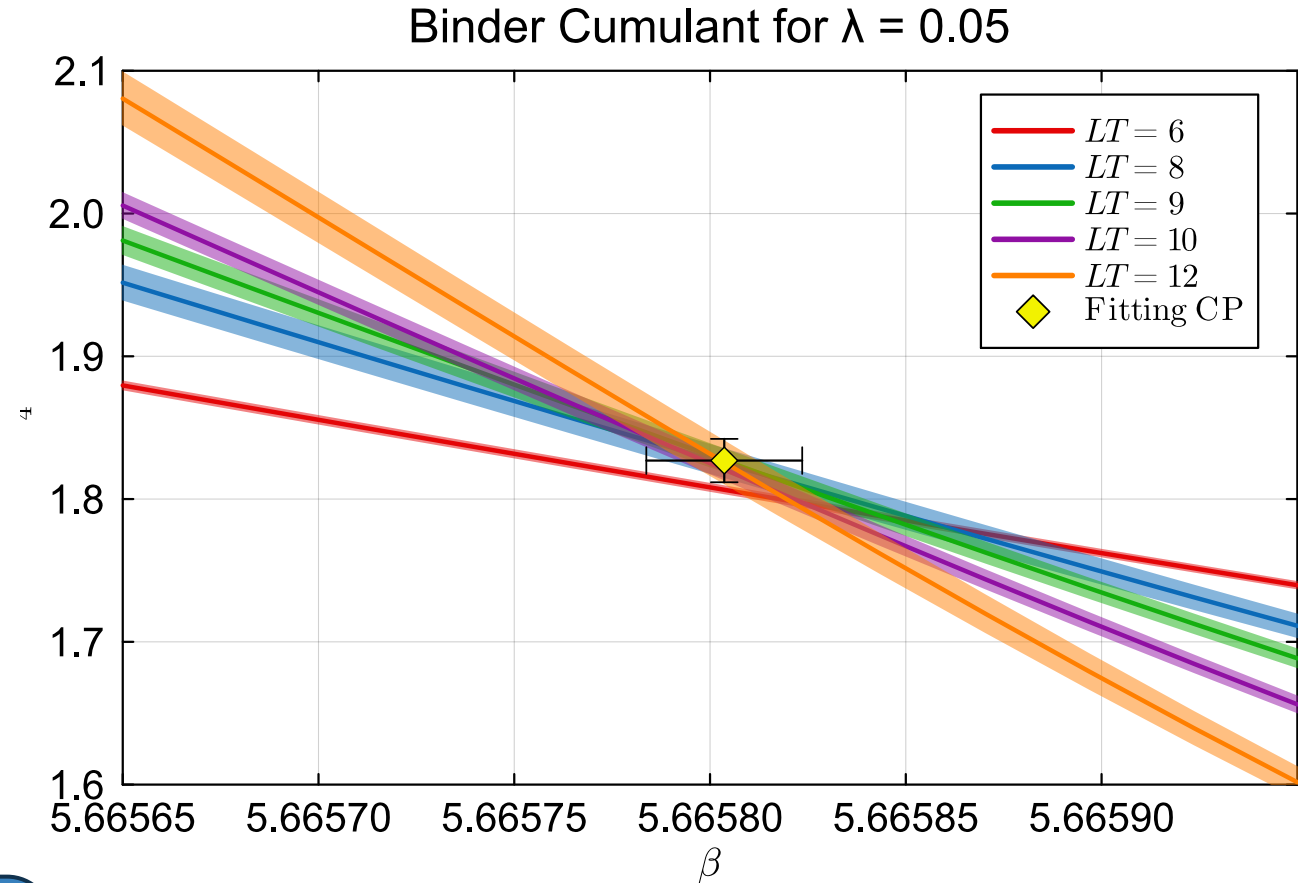
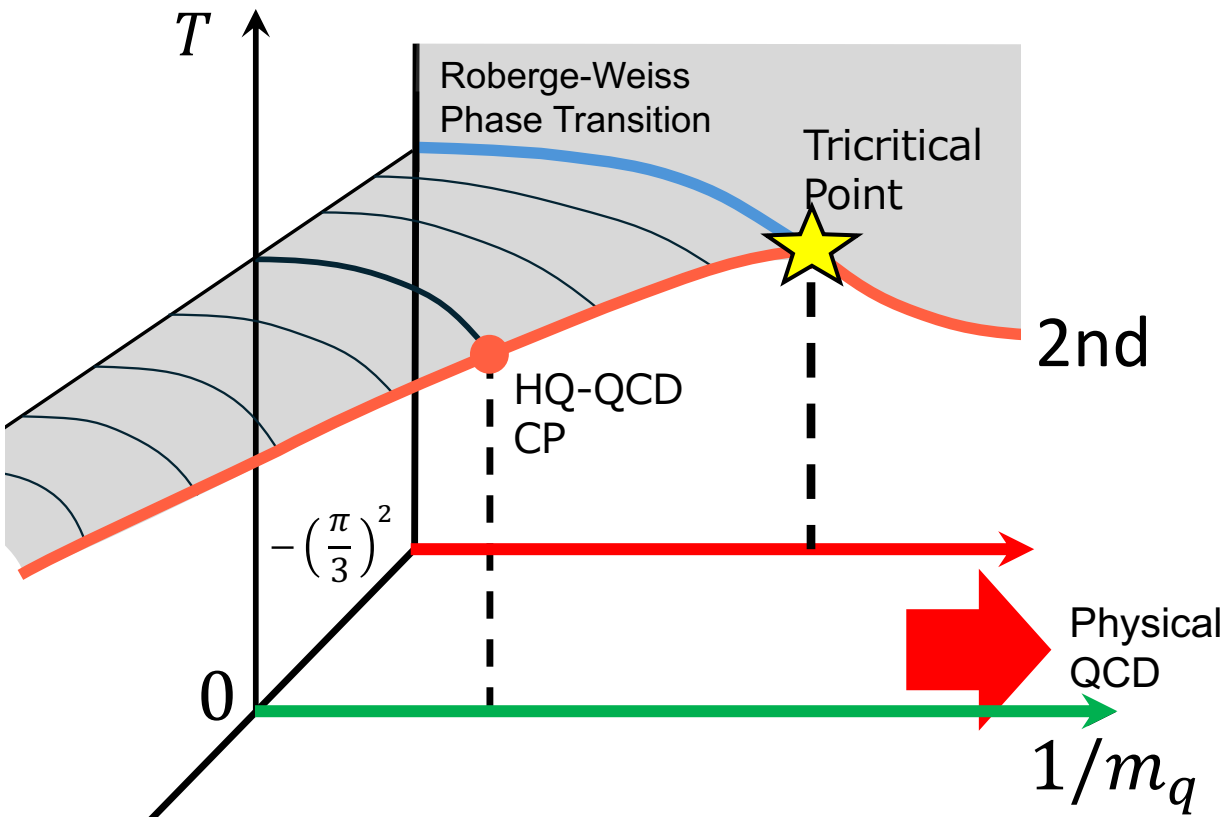
The order of phase transition at $\mu = 0$



Add μ_B/T



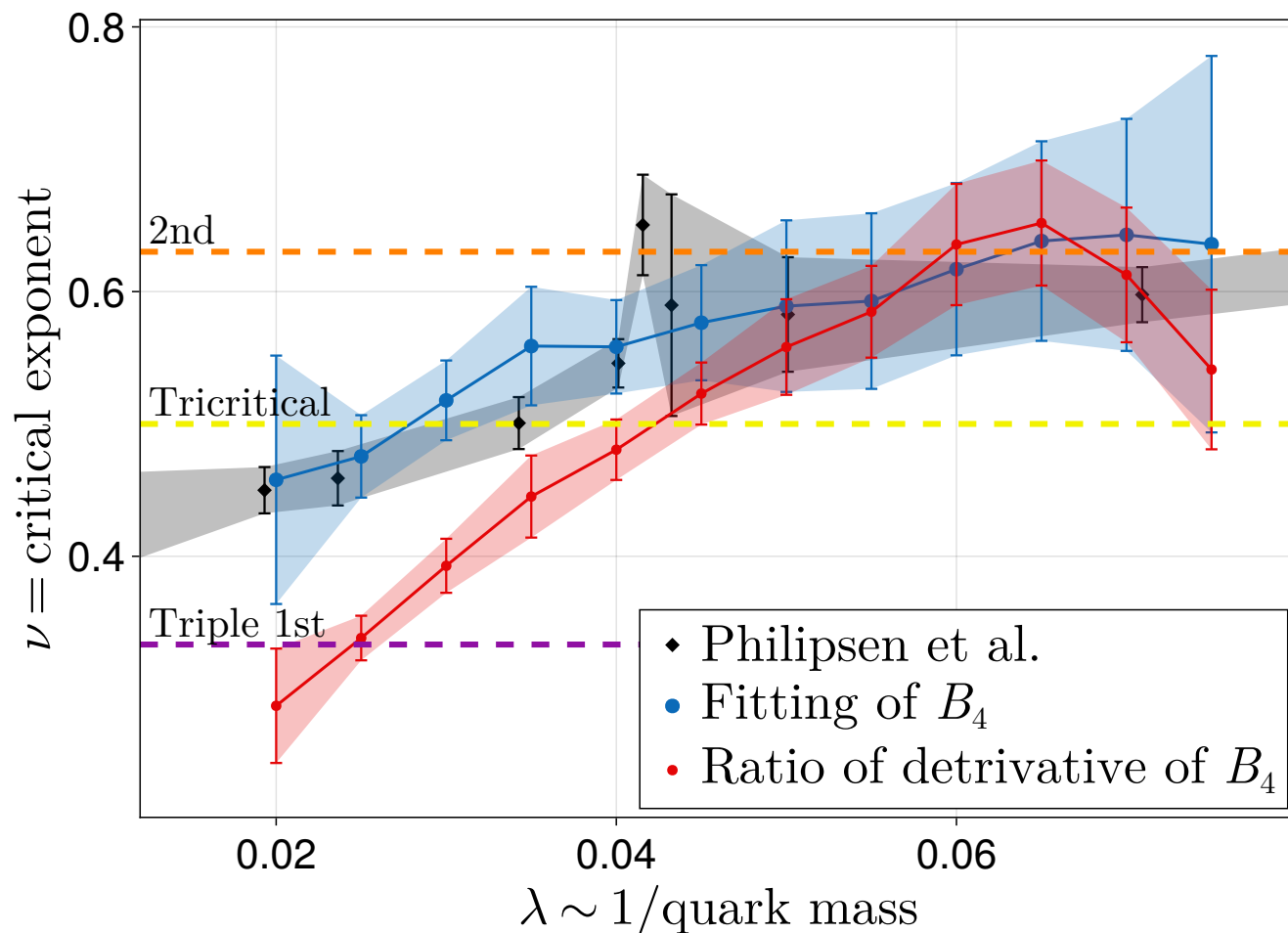
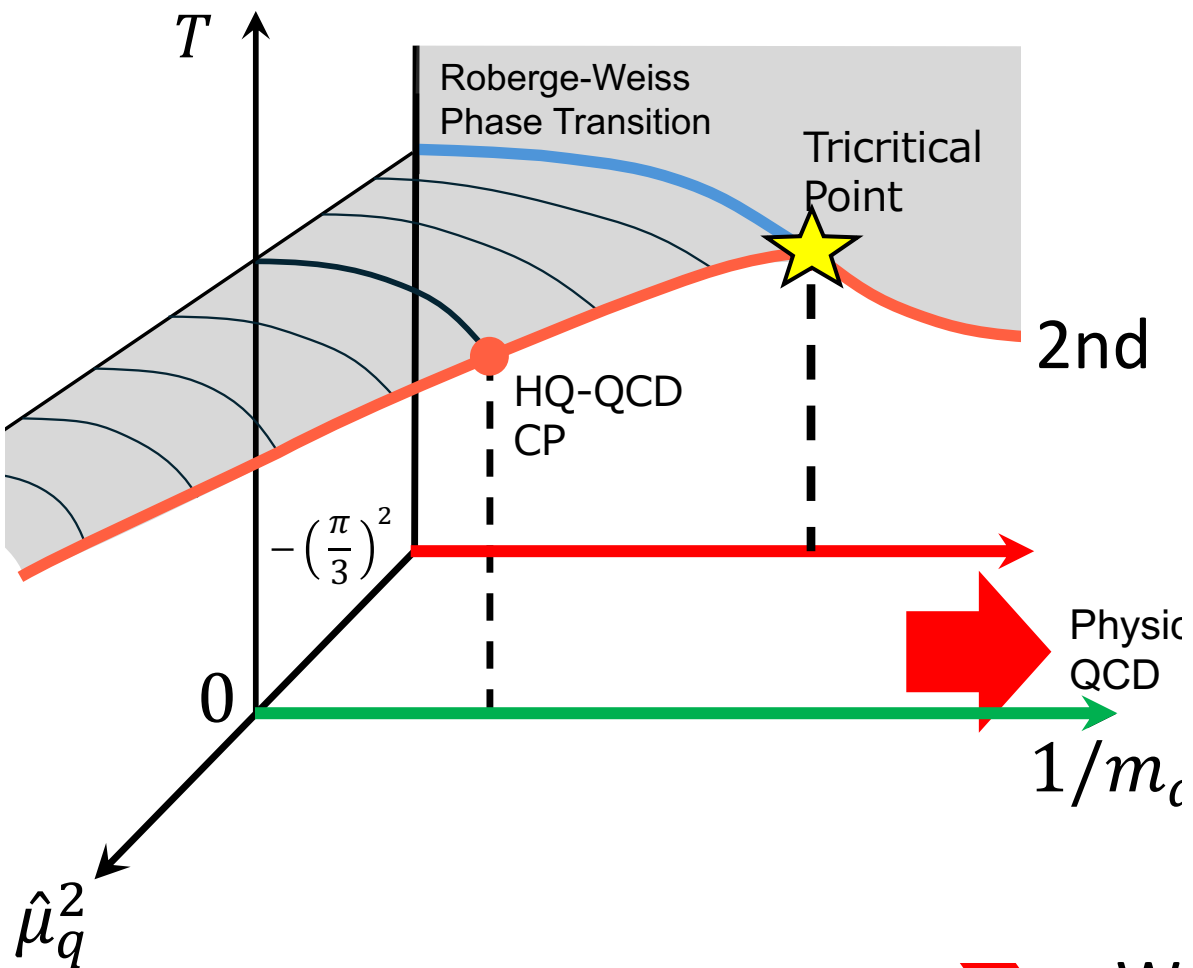
Tricritical Point



Purpose
 Determining the Tricritical Point
 at $\mu = i\pi/3$ by Binder Cumulant

➤ The values at CP are universal.
 However, finite volume effect is large.

Derivative of Binder Cumulant method



We propose a new method to detect critical exponent using the **derivative of B_4** .