The QCD phase diagram from imaginary chemical potential

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The phase diagram of QCD?

\[ \mu \neq 0: \text{lattice QCD blocked by complex determinant} \]

Learn as much as possible from imaginary \( \mu \)
Put Columbia plots at $\mu/T = 0$ and $\mu/T = i\pi/3$ together

- Red surfaces are critical
- Thick lines are tricritical $\rightarrow$ scaling

Focus on blue $N_f = 2$ line
$N_f = 2$ backplane: constrained phase diagram

Matching tricritical scaling around $\mu_{RW}$ and around $m=0$

Two tricritical points joined by a critical (Ising) line
One tricritical point known – where is the other?
$N_f = 2$ backplane: constrained phase diagram

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