Chiral Symmetry and meson properties at finite temperature — A Numerical experiment

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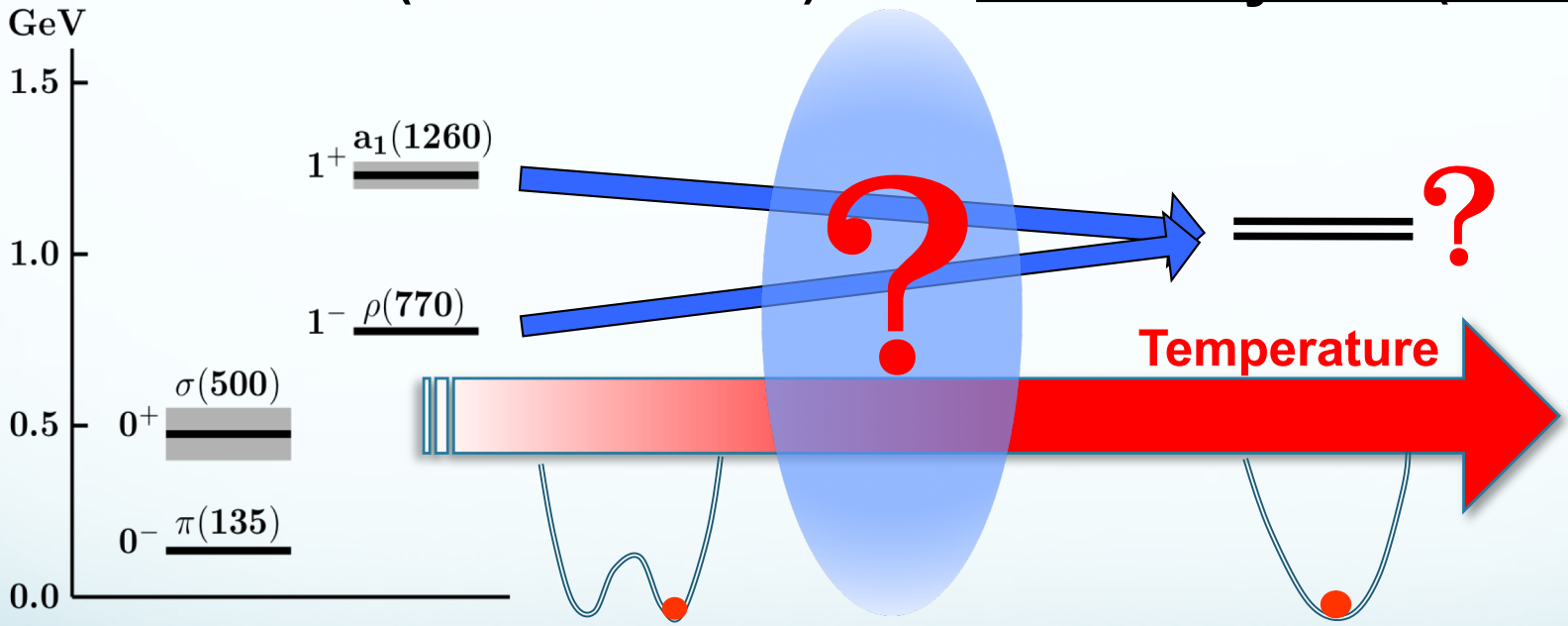
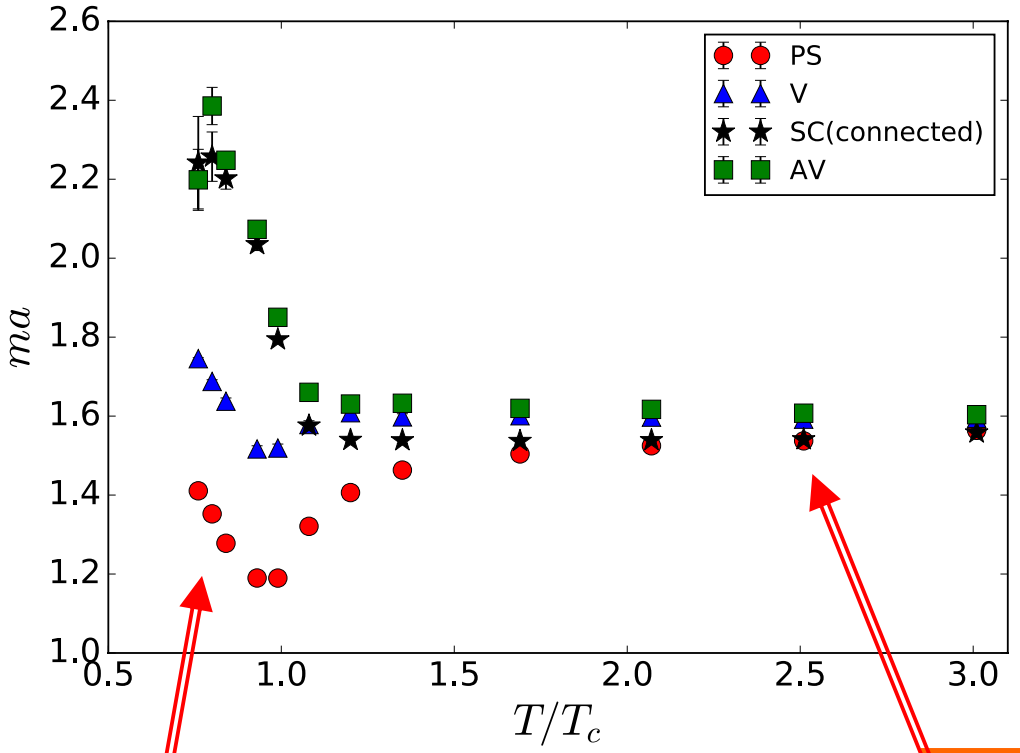


Previous work: Dynamical HISF action (Y. Maezawa et al, PoS(Lattice'15))
Our work1: Dynamical Clover Fermion action (arXiv:1711.09693[hep-lat])
Our work2: Quenched Domain Wall Fermion action

Temperature dependence of masses for Dynamical Clover Fermion action



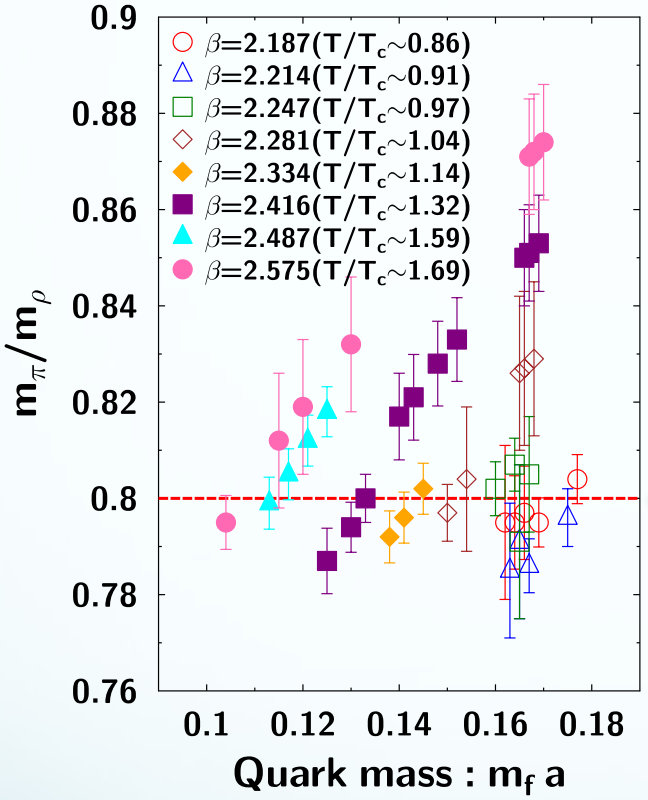
T. Kunihiro, S. Muroya, A. Nakamura, C. Nonaka, M. Sekiguchi, H. Wada & M.W., arXiv:1711.09693[hep-lat] (submitted to PTEP)

- **Iwasaki gauge action**
- **Lattice size : N_t=4, N_s=16**
- **2 flavor**
- **m_π/m_ρ = 0.80**
- **# of Conf. : 1,000 conf.**

In the low temperature region below Tc, the screening masses in all the channels decrease.

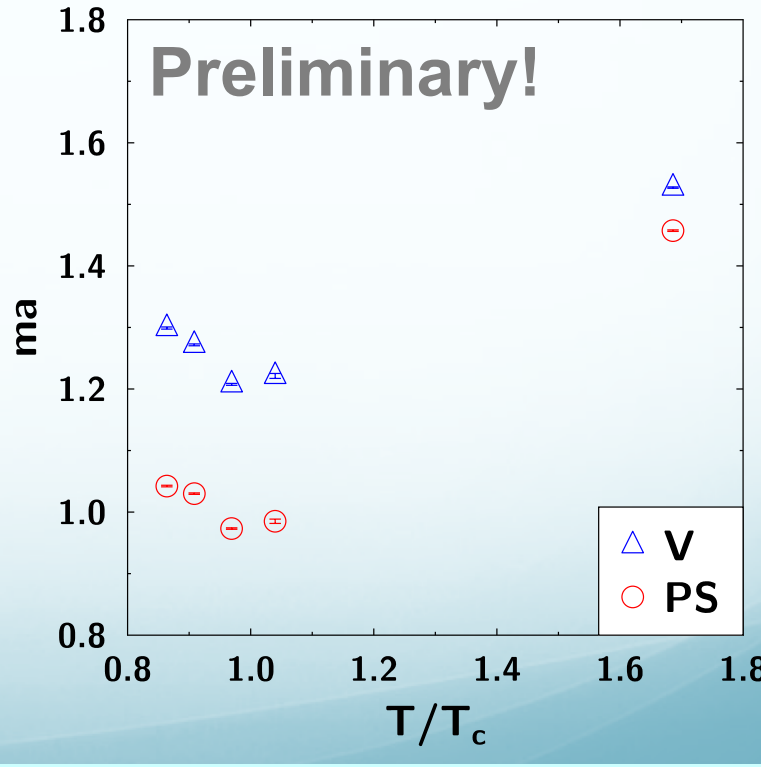
The screening masses in all the channels degenerate, which is in accord with the effective restoration of $U_A(1)$ symmetry, and then eventually approach $2\pi T$.

Temperature dependence of masses for Quenched Domain Wall Fermion action



We evaluate quark masses from a line of constant physics determined by $m_\pi/m_\rho = 0.80$ in zero temperature.

- Lattice size : N_t=16, N_s=16, N_5=32
- # of Conf. : 12-80 conf.



- Iwasaki gauge action
- Lattice size : N_t=4, N_s=16, N_5=32
- 2 flavor
- $m_\pi/m_\rho = 0.80$
- # of Conf. : 1,600-2,000 conf.