

Stress-Tensor Distribution in Quark-Antiquark System

Takumi Iritani (RIKEN)

for FlowQCD Coll.

Ryosuke Yanagihara, Masakiyo Kitazawa,

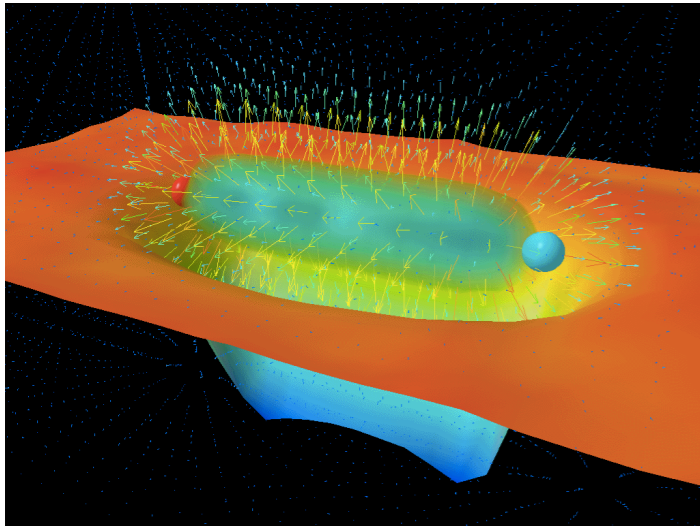
Masayuki Asakawa (Osaka Univ.), Tetsuo Hatsuda (RIKEN)

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"Recent Developments in Quark-Hadron Science",
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Reference [arXiv:1803.05656](https://arxiv.org/abs/1803.05656)[hep-lat]

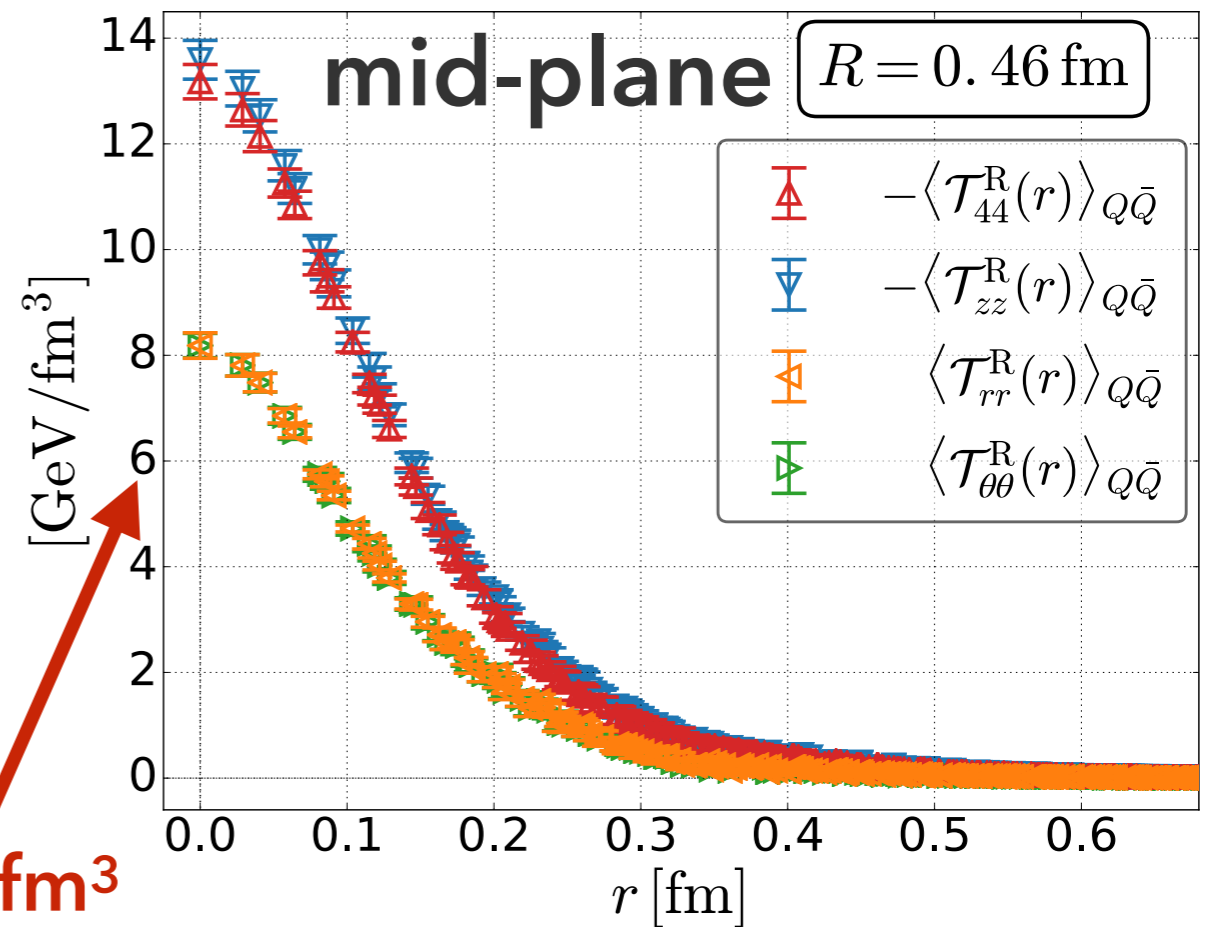
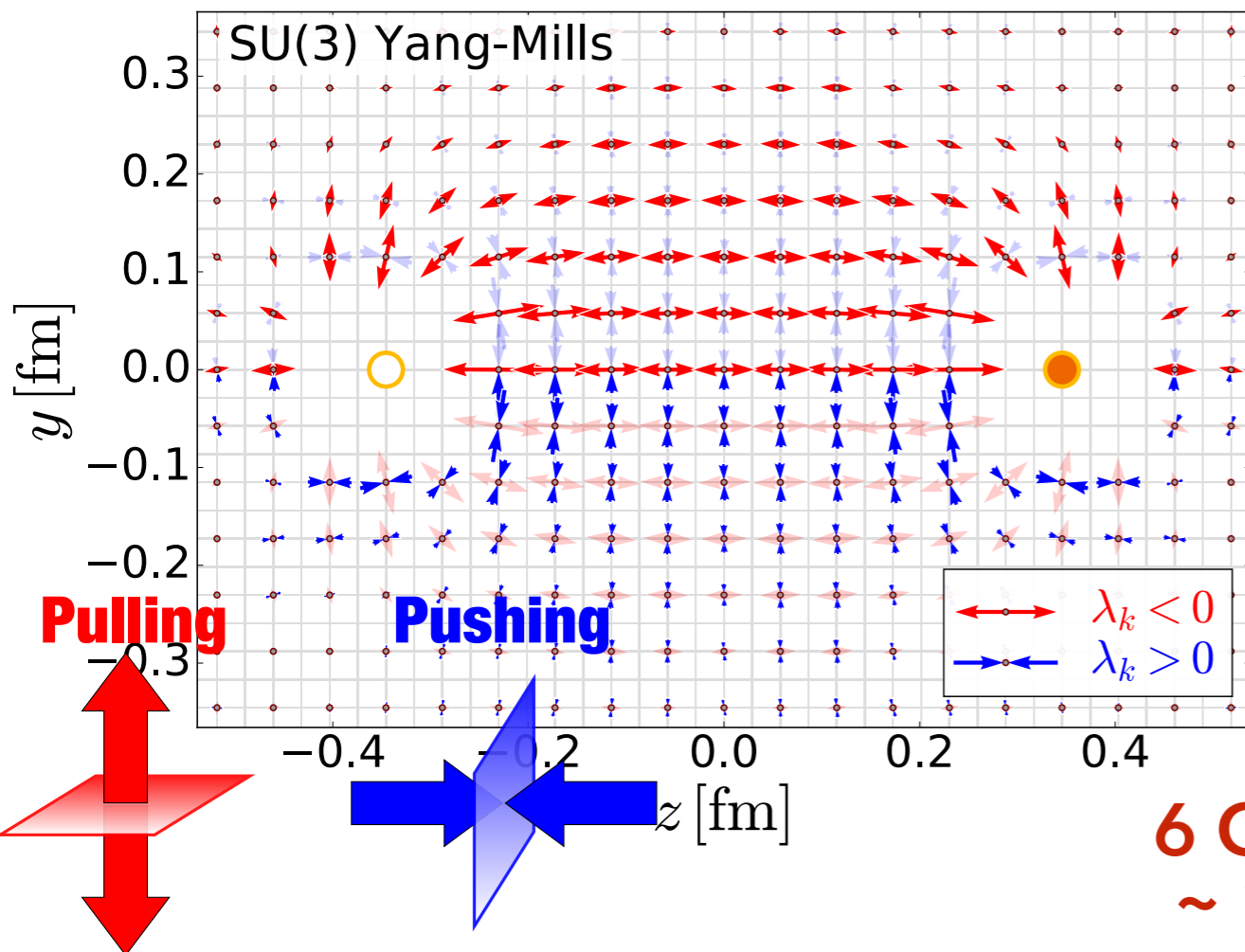
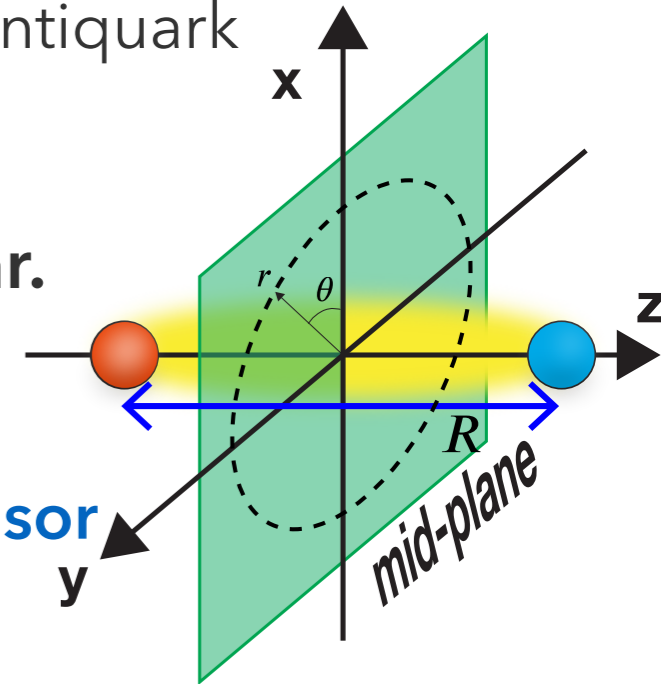
Stress-Tensor distribution around Quark-Antiquark



A **tube structure** between static Quark and Antiquark is observed by the "*action density*".

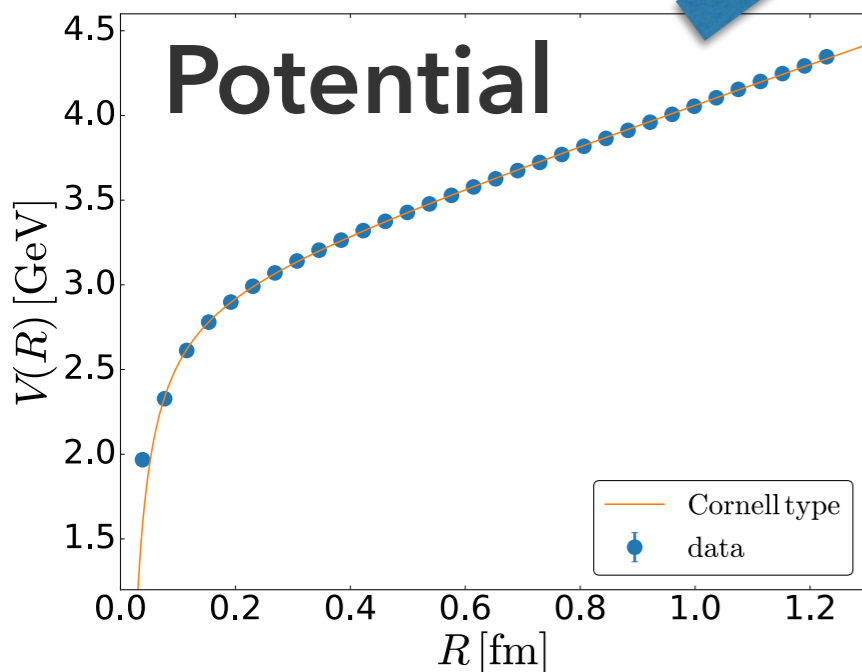
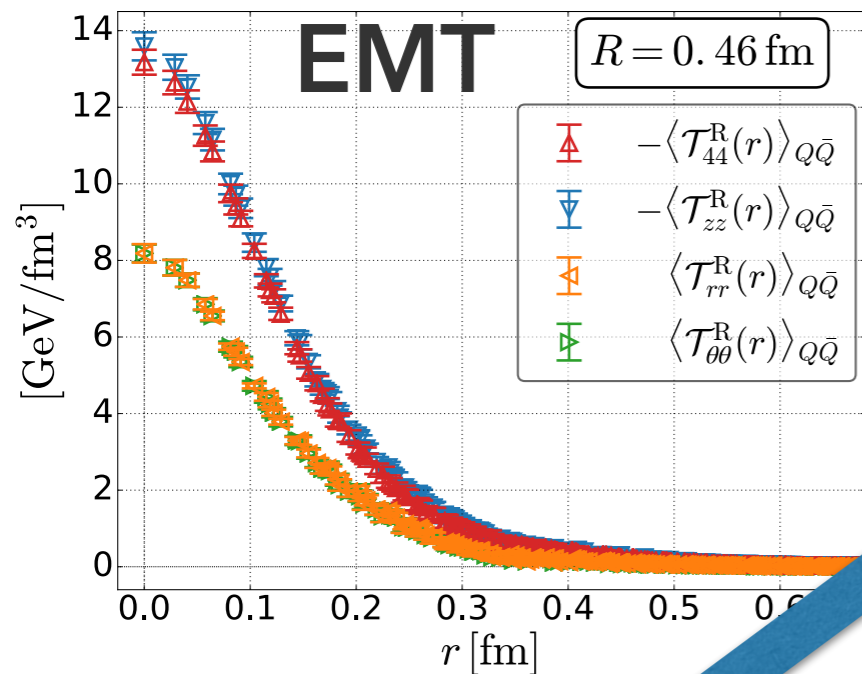
physical interpretation is unclear.

we measure
the Renormalized Energy-Momentum Tensor
 for the first time
 by using "**Gradient Flow**"



6 GeV/fm³
 $\sim 10^{36}$ Pa

Interquark Force from the Stress-Tensor



$$F_{\text{stress}} = - \int \langle \mathcal{T}_{zj}^R(x) \rangle_{Q\bar{Q}} dS_j$$

$$F_{\text{pot.}} = - \frac{dV(R)}{dR}$$

the "action-at-a-distance" interquark force by the stress tensor

