

Dynamics of Heavy Quark in a Strongly Magnetized Medium

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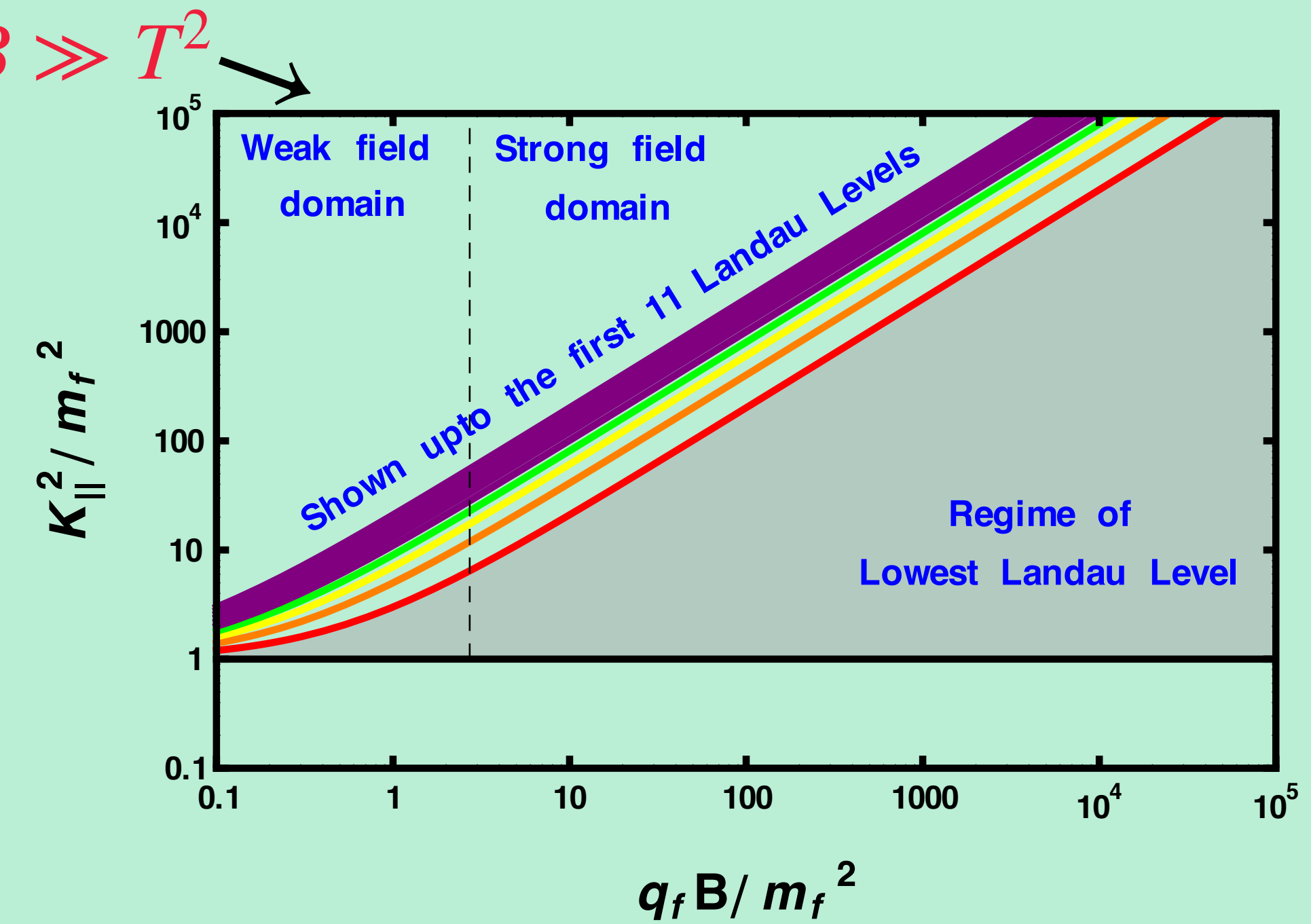
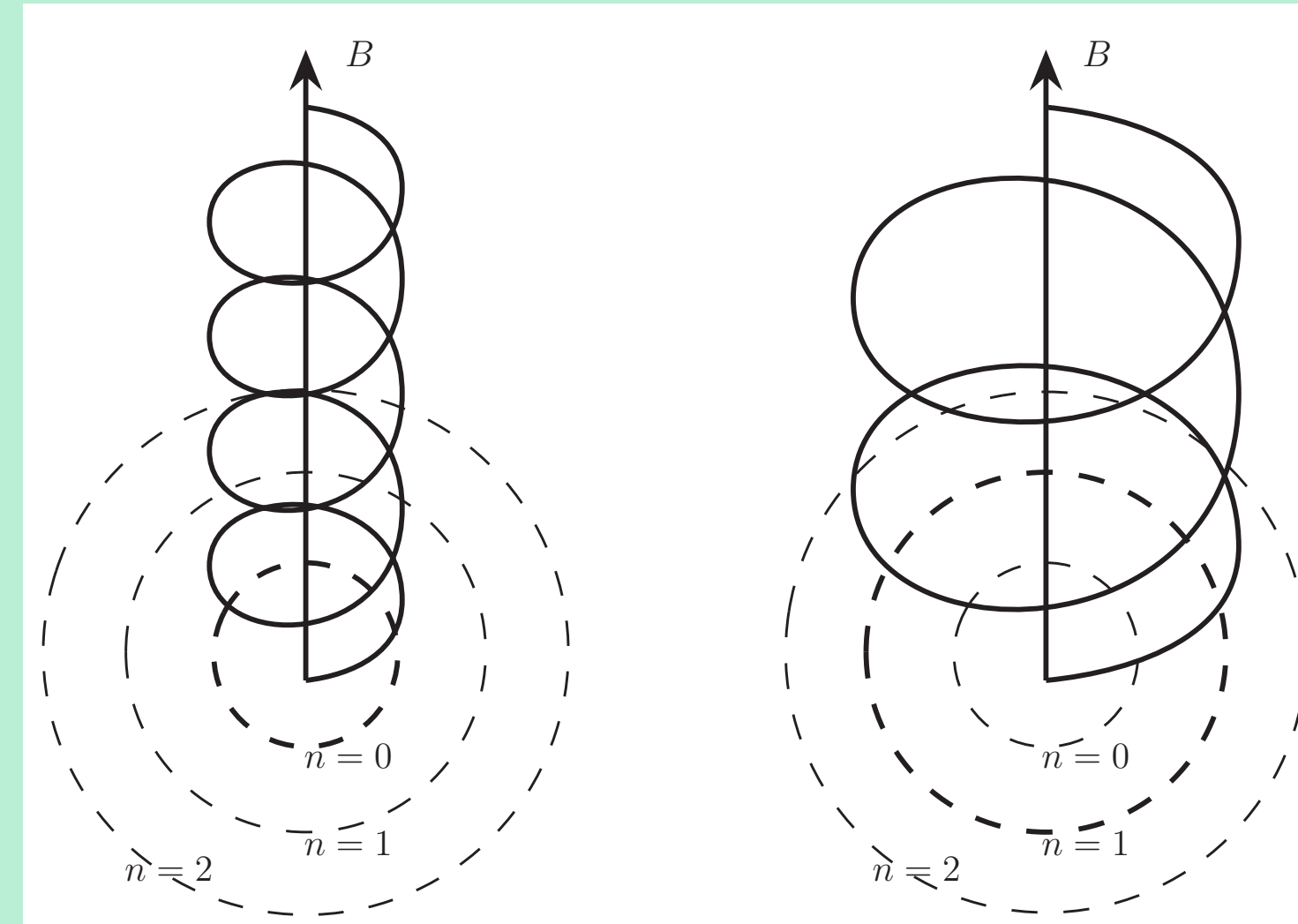
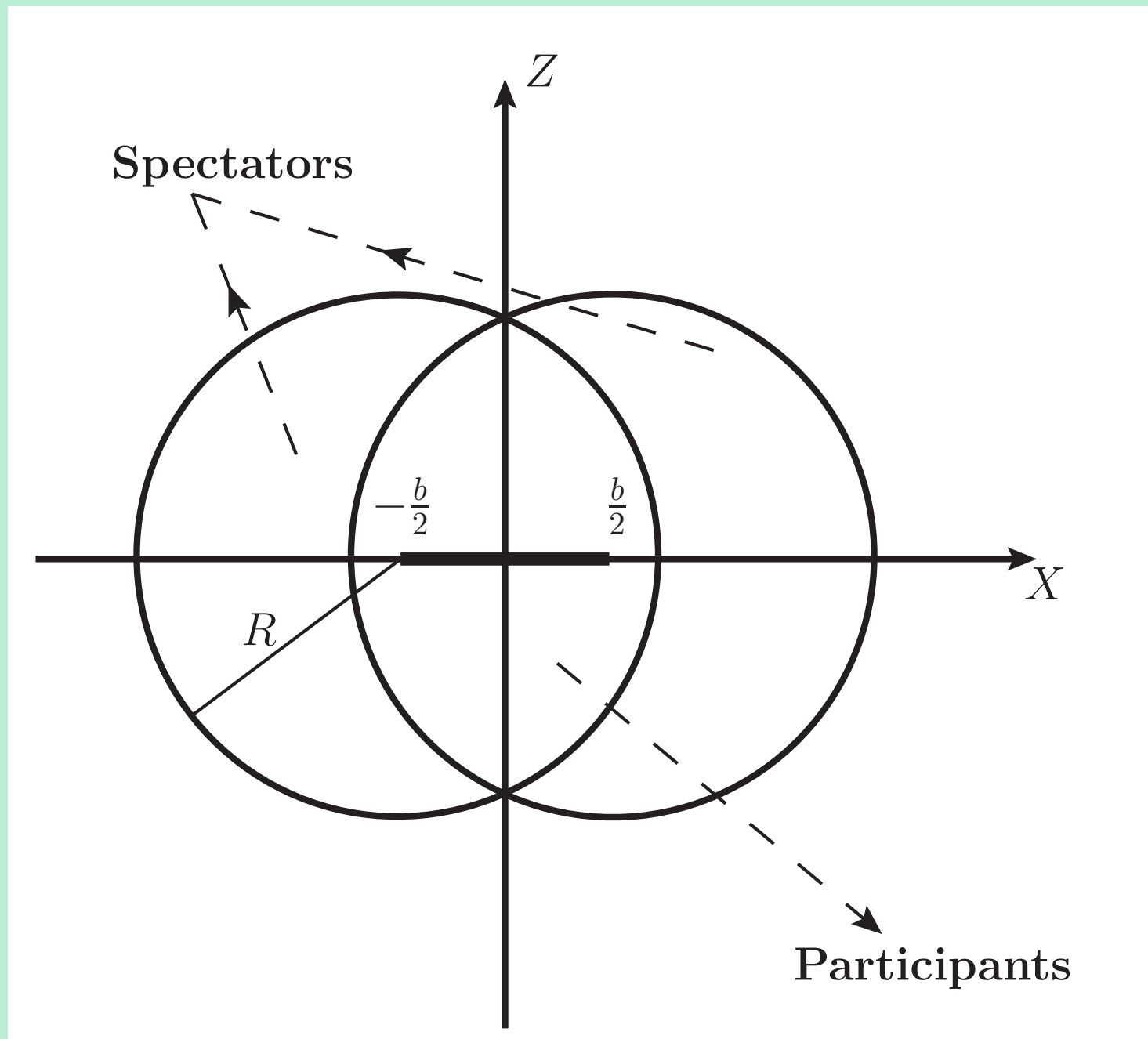


Based on : 2105.02167, PRD 105 (2022)

In collaboration with : Jinfeng Liao and Hongxi Xing

Poster # 34

Motivation



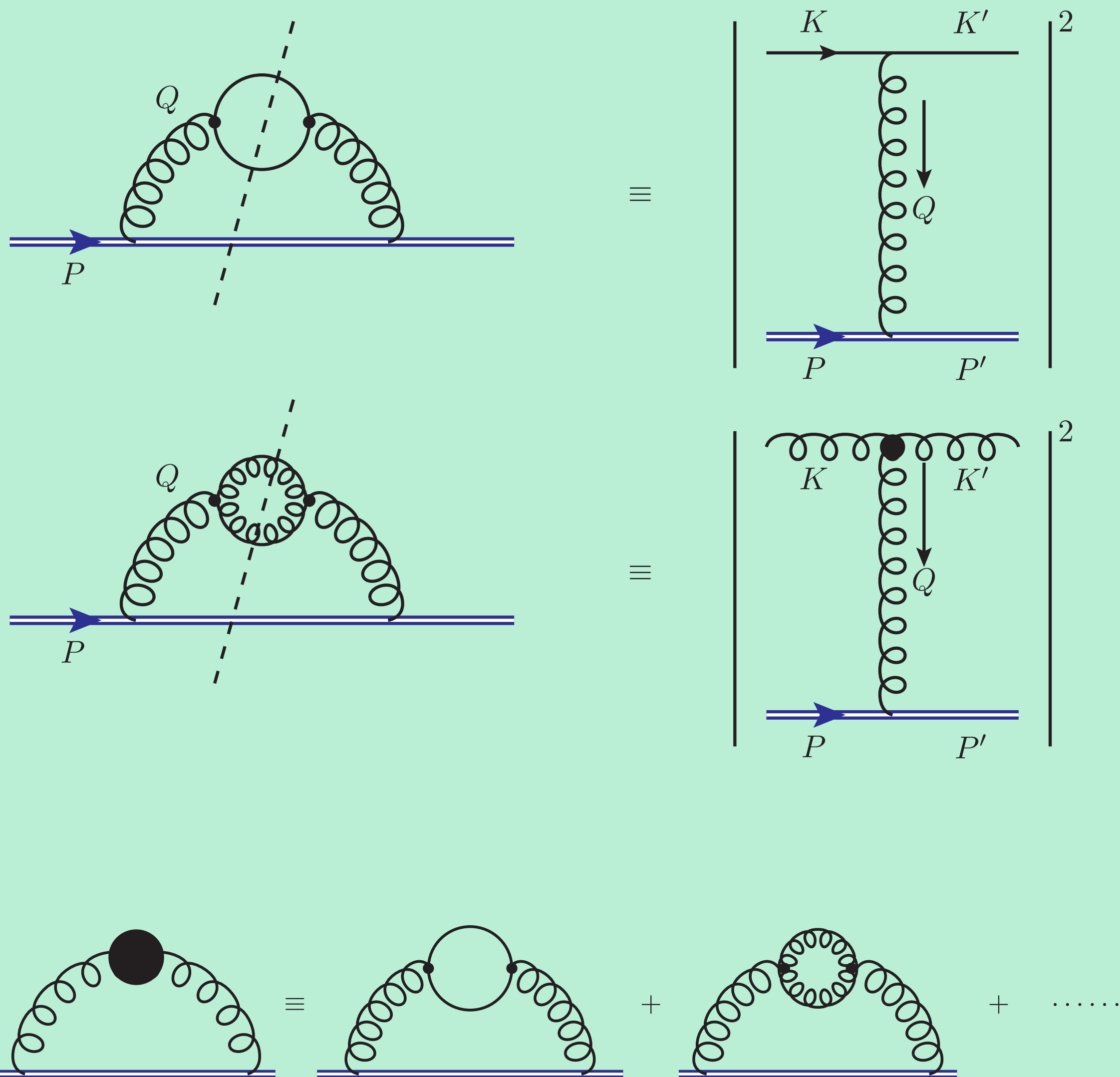
Heavy Quarks as QGP signature :

Large mass compared to T , $M \gg \sqrt{eB} \gg T$

Generated at the early stage \rightarrow Less contaminated information of the QGP state.

Essential theoretical inputs : HQ momentum diffusion coefficients

Calculational Overview



- All Momentum diffusion coefficients depend on the scattering / interaction rate Γ
- We evaluate $\Gamma(qH \rightarrow qH)$ and $\Gamma(gH \rightarrow gH)$ in presence of strong external magnetic field.
- We use HTL effective gluon propagator in a magnetized medium for our purpose.
- Novelty of our work : Going beyond the static limit in a magnetized medium with 2 different scenarios : $\vec{v} \parallel \vec{B}$, $\vec{v} \perp \vec{B}$.

For more details and results please visit Poster # 34