

Dear Professors,

I am a last year PhD student from Institute of High Energy Physics in China, under the supervision of Prof. Yu Jia. I would like to apply for the postdoctoral position in your group.

During my PhD study, I focused on two subjects.

We applied nonrelativistic EFT and operator product expansion (OPE) to solve the asymptotic behaviors of atomic wave functions near the origin. We successfully reproduced the asymptotic behavior (logarithmic divergences for Klein-Gordon and Dirac equations) of atomic wave functions.

I also studied NRQCD factorization for fully-heavy tetraquark production. We adopt similar idea from quarkonium production and separate the nonperturbative tetraquark hadronization from the perturbative quarks/anti-quarks creation. We derived all S-wave NRQCD operators at leading order, and calculated the leading order short distance coefficients for both the gluon fragmentation function and the cross section from e^+e^- annihilation.

Apart from the above two subjects, I also worked on meson-meson scattering in 1+1 dimension with large- N expansion. We numerically solved the scattering amplitude and studied the possibility of producing tetraquarks in the process.

Prof. Yu Jia, Prof. Deshan Yang and Prof. Xiaohui Liu kindly agreed to write recommendations for me. I hope my background and research experience fit the criteria of the postdoctoral position in your group. Thank you for your kind consideration.

Best,

Yingsheng