

The T31 group

January 18, 2020

TUM

VALLEY OF DREAMS

REALM OF IMAGINATION

Application for PhD position

Dear Professor Beneke,

About Me

I am currently a fourth year student at the University of Durham studying MPhys in Theoretical Physics. I have spent the previous years steadily focusing towards particle physics, through studying courses such as Relativistic Quantum Mechanics, Gauge Field Theories, and Nuclear and Particle Physics. During my third year, I began looking into the difficulties of understanding and predicting the behaviours of QCD through a project to model the inter-quark potential in quarkonia systems. My Masters thesis is still in progress, but in the preliminary stages, I have been testing the Two Higgs Doublet Model of Type II against flavour observables, finding constraints on its parameters. Through these courses and projects, I have developed a strong interest in the field of particle physics, with particular focus on flavour physics. I am a very hard-working individual who will bring passion to my work and happily dedicate myself to my studies to the full extent of my abilities.

Why T31 group ?

I believe the T31 group would be a great place for me to continue my studies. The group's work aligns closely with the areas of physics I have explored through my Masters program, and I have found great interest reading some of the publications released by members of the group. The strong resources of TUM and frequent collaborations with other institutes across Germany and the rest of the world would provide me with a great base to develop my skills and work alongside some of the best experts in the world in flavour phenomena. I believe I could prove to be a great addition to the team at the T31 group and would very much enjoy the opportunity to take my next steps in physics with you.

Why Me?

As I learn more and more about the mysteries of physics, there is one thing I can say with certainty: I need to know more. There is something so fascinating about the formulation of the theory of particle physics, I cannot help but be drawn to it. I know that what I have learned so far is but the tip of the iceberg, and I am so eager to continue my learning. The opportunity to continue my learning in particle physics, and begin to contribute towards the expansion of scientific knowledge would be something most valuable to me, and I would relish the chance to dedicate myself fully to this through a PhD position at the T31 group .

Thank you for your time and consideration, I look forward to hearing from you.

Sincerely,

Matthew Rossetter

Attached: Curriculum Vitae, Academic Transcript, Masters Abstract