



From: Antoine Herrmann

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Subject: Application to PhD position in Montreal, Canada

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Dear Professor Witczak-Krempa,

I'm currently looking for a PhD position in theoretical physics in Quantum Fields Theories and solitons dynamics. I graduated of a Master degree in physics from the University of Strasbourg, France in June 2020 as a part of a selective graduate school "quantum science and nanomaterials (QMAT)" and the selective double degree "Magistere of Fondamental Physics".

Following my interest in classical and quantum field theories given by Prof. Janos Polonyi, I did my Master research internship in the group DON at IPCMS, Strasbourg under the supervision of Paul-Antoine Hervieux at University of Strasbourg, France. My research project involved skyrmions through the RKKY term in the Hamiltonian and numerical simulations. From this experience, I want to describe the appearance of those kinds of particles from field theories and computational methods. In a long-term perspective, I'd like to be a researcher in quantum fields theories as a crossborder tool between many fields of physics like condensed matter, particle physics, supersymmetry and mathematical physics and working as PhD student on QFT can help me to reach this ambitious goal. To reach this goal, I'm currently reading "The Theory and Applications of Instanton Calculations" from Manu B. Paranjape as an introduction to QFT and solitons description.

As Montréal university being one of the best research environments in this field of QFT, and after reading with excitement your paper "Entanglement of skeletal regions", I would like to work as a PhD student under your esteemed guidance. I hope you will find my profile interesting and give me an opportunity to contribute, learn and gain knowledge from your rich research.

I assure you that I will work with utmost sincerity and dedication, and I will certainly prove myself as an asset to the institute. Herewith, I have attached my CV and contact professors who could support me for your reference.

Looking forward to reading from you.

Best regards,

Antoine Herrmann