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When Nano Isn't Small Enough: Lattice Quantum Chromodynamics and My Quest to Understand Particle Physics

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Although I started my research life as a condensed matter theorist (nanotribology), I now work in the field of high-energy physics. I use effective field theories and Lattice Quantum Chromodynamics (Lattice QCD) to calculate strong-interaction effects in Standard Model processes. I have worked on quark and meson mass calculations, and contributed to decay-process calculations used to probe the weak-interaction. After setting the stage for this research, I will briefly describe calculations I have worked on over the past few years and give an introduction to my current research project(s).