Dear Type One Energy Team,

I am writing to express my strong interest in the Plasma Diagnostics Scientist – Optical position. With a Ph.D. in plasma physics from the University of Science and Technology of China and my current postdoctoral research at UC Davis, I bring a combination of deep plasma physics understanding, advanced diagnostic development, and hands-on experimental experience that aligns directly with Type One Energy's mission to deliver practical, reliable fusion power through the stellarator approach.

My work has centered on both the physics and engineering of fusion diagnostics. I have designed, built, and commissioned optical and millimeter-wave diagnostic systems across NSTX-U, DIII-D, and EAST, including laser-based systems, reflectometry, FIR scattering, and high-precision alignment and control. These projects required optics design, automation (LabVIEW, Python, MATLAB), data acquisition, calibration, and integration with facility control systems, which experience directly relevant to supporting, implementing, and advancing diagnostic systems at Type One Energy.

In parallel, I have developed advanced computational tools to support diagnostic design and interpretation, including a kinetic solver for runaway electron dynamics and a 2D FDTD beam-tracing code for wave propagation optimization. These modeling efforts strengthened my ability to translate physical requirements into diagnostic capabilities and to bridge simulation with experimental implementation skills that are valuable for Type One Energy's engineering-focused development environment.

What attracts me most to Type One Energy is the company's commitment to engineering-first execution, rapid hardware development, and the long-term reliability advantages of stellarators. The opportunity to contribute to diagnostics on a device that is being built with a clear, deployable pathway is especially compelling. I am inspired by the company's mission-driven culture, its emphasis on integrated design, and the chance to work closely with experts in plasma physics, optics, and systems engineering in a fast-paced environment where diagnostics have direct impact on the success of the machine.

I am confident that my background in developing, operating, and modeling diagnostic system, which combined with my hands-on laboratory experience and collaborative approach, will allow me to contribute immediately to Type One Energy's diagnostic efforts. I would welcome the opportunity to bring both technical strength

and a practical, problem-solving mindset to support the commissioning, optimization, and operation of the company's stellarator programs.

Thank you very much for considering my application. I would be excited to discuss how my skills and experience can contribute to Type One Energy's mission of realizing commercially deployable fusion systems.

Sincerely,

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