Stanford

Dr. Christopher T. Parzyck

Postdoctoral Scholar, Photon Science, SLAC

Bio

BIO

My research interests lie at the intersection of materials science and condensed matter physics. I work on thin film synthesis of oxide and metal systems by molecular-beam epitaxy (MBE). Applications range from answering fundamental physics questions about high temperature superconductivity to developing practical synthesis routines and new materials for next generation electron sources. In addition, I work on projects involving spectroscopic probes of thin film systems, including angle-resolved photoemission spectroscopy (ARPES) and resonant soft x-ray scattering (RSXS) measurements.

PROFESSIONAL EDUCATION

- Doctor of Philosophy, Cornell University , Physics (2023)
- Master of Science, Cornell University , Physics (2019)
- Master of Science, The University of New Mexico , Mathematics (2016)
- Bachelor of Science, University of California, San Diego , Physics & Mathematics (2013)

STANFORD ADVISORS

- Thomas Devereaux, Postdoctoral Faculty Sponsor

LINKS

- Personal Site: https://www.parzyck.net/

Publications

PUBLICATIONS

- **Growth of tetragonal PtO by molecular-beam epitaxy and its integration into β-Ga₂O₃ Schottky diodes** *APL MATERIALS*

  Hensling, F. V. E., Parzyck, C. T., Cromer, B., Al Mamun, M., Suyolcu, Y., Kalaydjian, L., Subedi, I., Park, J., Azizie, K., Song, Q., Van Aken, P. A., Podraza, N. J., Cho, et al

  2025; 13 (11)

- **Anisotropic spin stripe domains in bilayer La₃Ni₂O₇** *NATURE COMMUNICATIONS*

  Gupta, N. K., Gong, R., Wu, Y., Kang, M., Parzyck, C. T., Gregory, B. Z., Costa, N., Sutarto, R., Sarker, S., Singer, A., Schlom, D. G., Shen, K. M., Hawthorn, et al

  2025; 16 (1)

- **Superconductivity in the Parent Infinite-Layer Nickelate NdNiO2** *PHYSICAL REVIEW X*

  Parzyck, C. T., Wu, Y., Bhatt, L., Kang, M., Arthur, Z., Pedersen, T. M., Sutarto, R., Fan, S., Pelliciari, J., Bisogni, V., Herranz, G., Georgescu, A. B., Hawthorn, et al

  2025; 15 (2)

- **Is Ba₃In₂O₆ a high-T_c superconductor?** *JOURNAL OF PHYSICS-CONDENSED MATTER*
  Hensling, F. E., Dahliah, D., Smeaton, M. A., Shrestha, B., Show, Parzyck, C. T., Hennighausen, C., Kotsonis, G. N., Rignanese, G., Barone, M. R., Subedi, Disa, A. S., Shen, K. M., Faeth, et al
  2024; 36 (31)

- **Surface reconstructions and electronic structure of metallic delafossite thin films** *APL MATERIALS*
  Song, Q., He, Z., Faeth, B. D., Parzyck, C. T., Scheid, A., Mowers, C. J., Feng, Y., Xu, Q., Hasko, S., Park, J., Barone, M. R., Suyolcu, Y., van Aken, et al
  2024; 12 (8)

- **Absence of 3a₀ charge density wave order in the infinite-layer nickelate NdNiO₂** *NATURE MATERIALS*
  Parzyck, C. T., Gupta, N. K., Wu, Y., Anil, V., Bhatt, L., Bouliane, M., Gong, R., Gregory, B. Z., Luo, A., Sutarto, R., He, F., Chuang, Y., Zhou, et al
  2024; 23 (4): 486-491