

BerkeleyGW Hands-on Session: Computing the Optical Absorption Spectrum of Si

Felipe H. da Jornada

Department of Materials Science and Engineering, Stanford University
Stanford PULSE Institute, SLAC National Laboratory

Los Alamos Computational Condensed Matter Summer School 2026
June 19, 2026

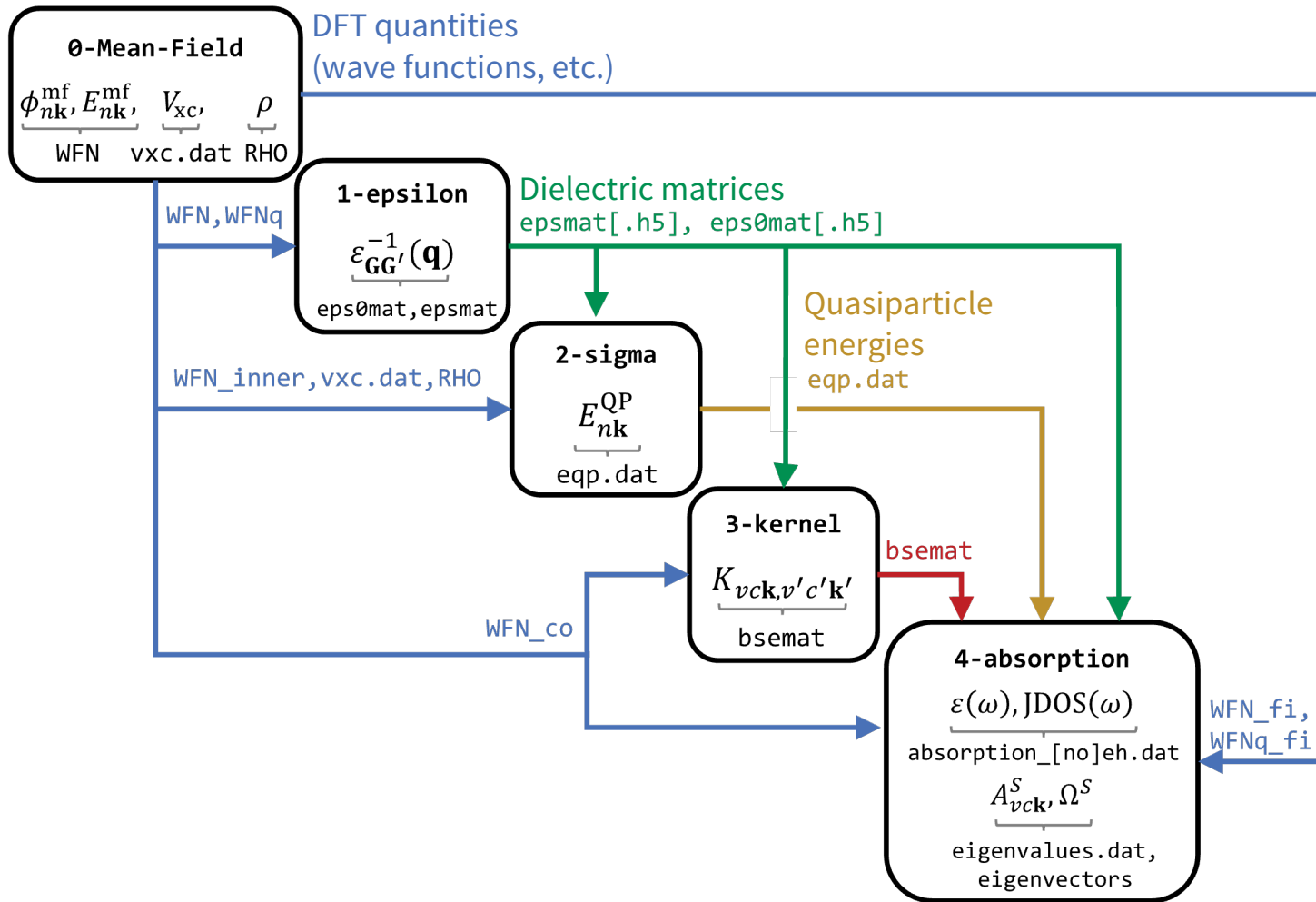


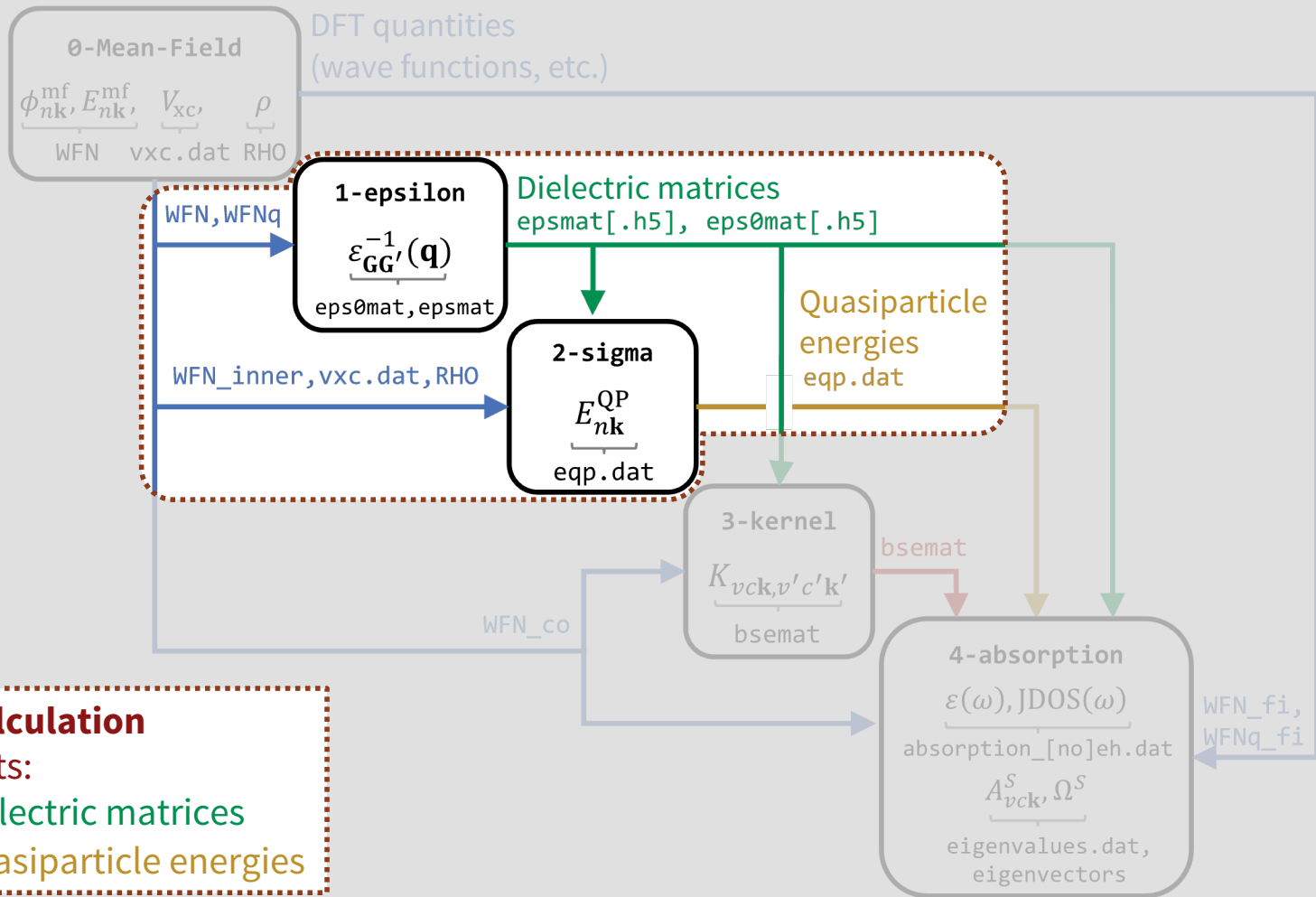
Afternoon: hands-on session!

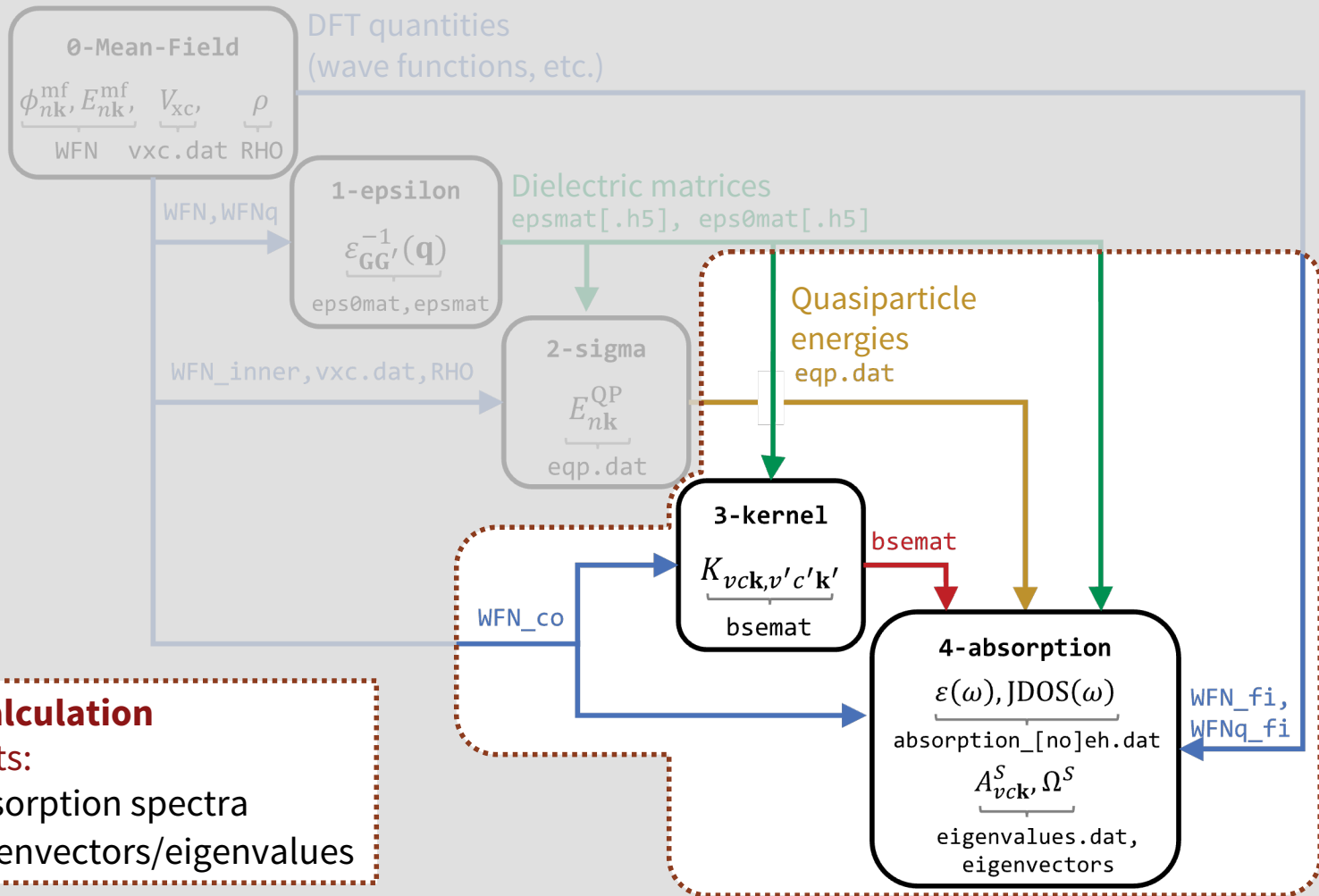


BerkeleyGW

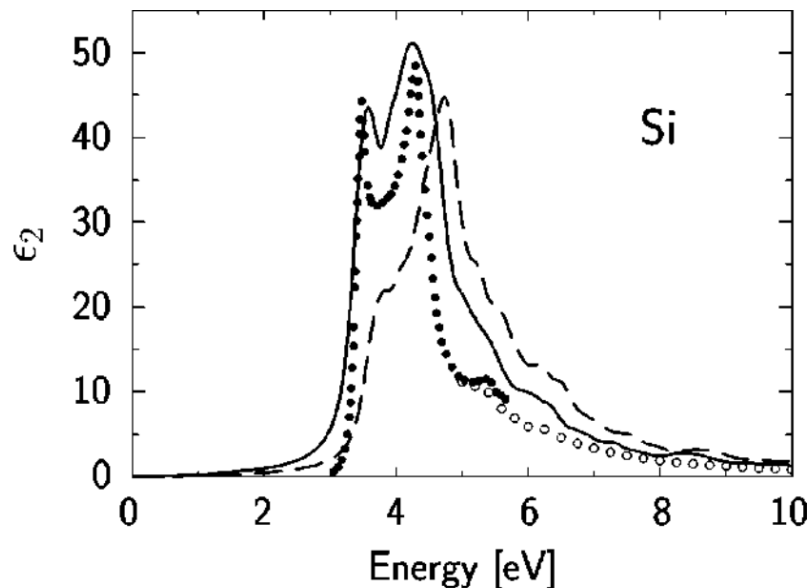
www.berkeleygw.org







Hands-on Session – Absorption Spectrum of Silicon



M. Rohlfing, S. G. Louie, PRB **62**, 8 (2000).

Goals:

- ▶ Reproduce plots on the left
- ▶ Partial convergence study wrt k-point sampling and number of bands

Stretch goals:

- ▶ Scissors operators
- ▶ Local fields

Instructions:

<https://berkeleygw.notion.site/>