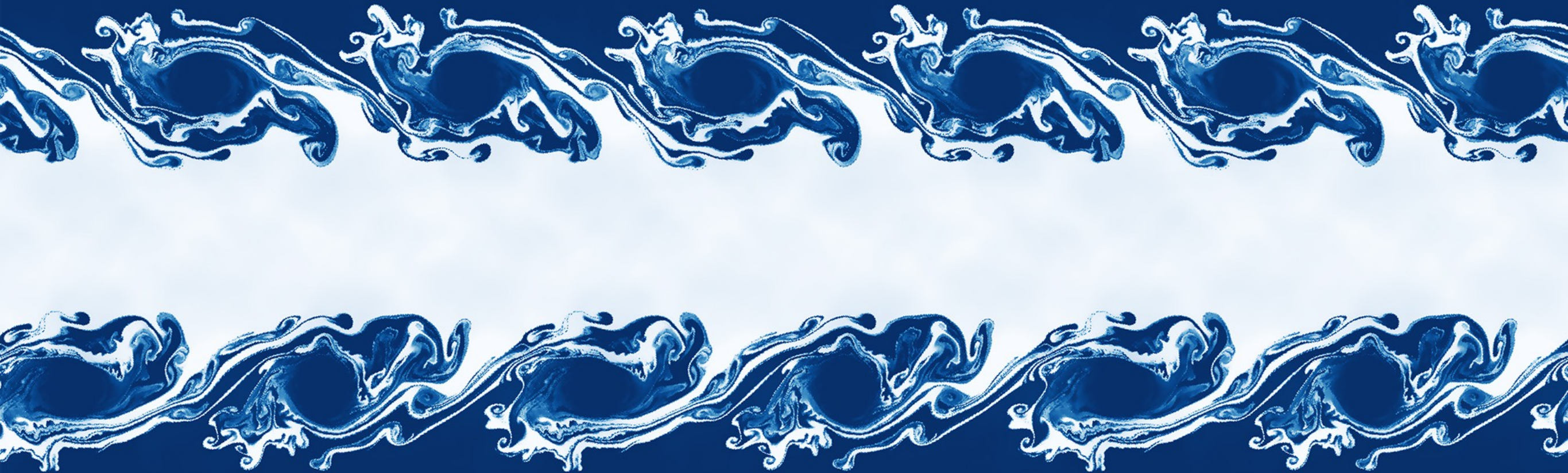


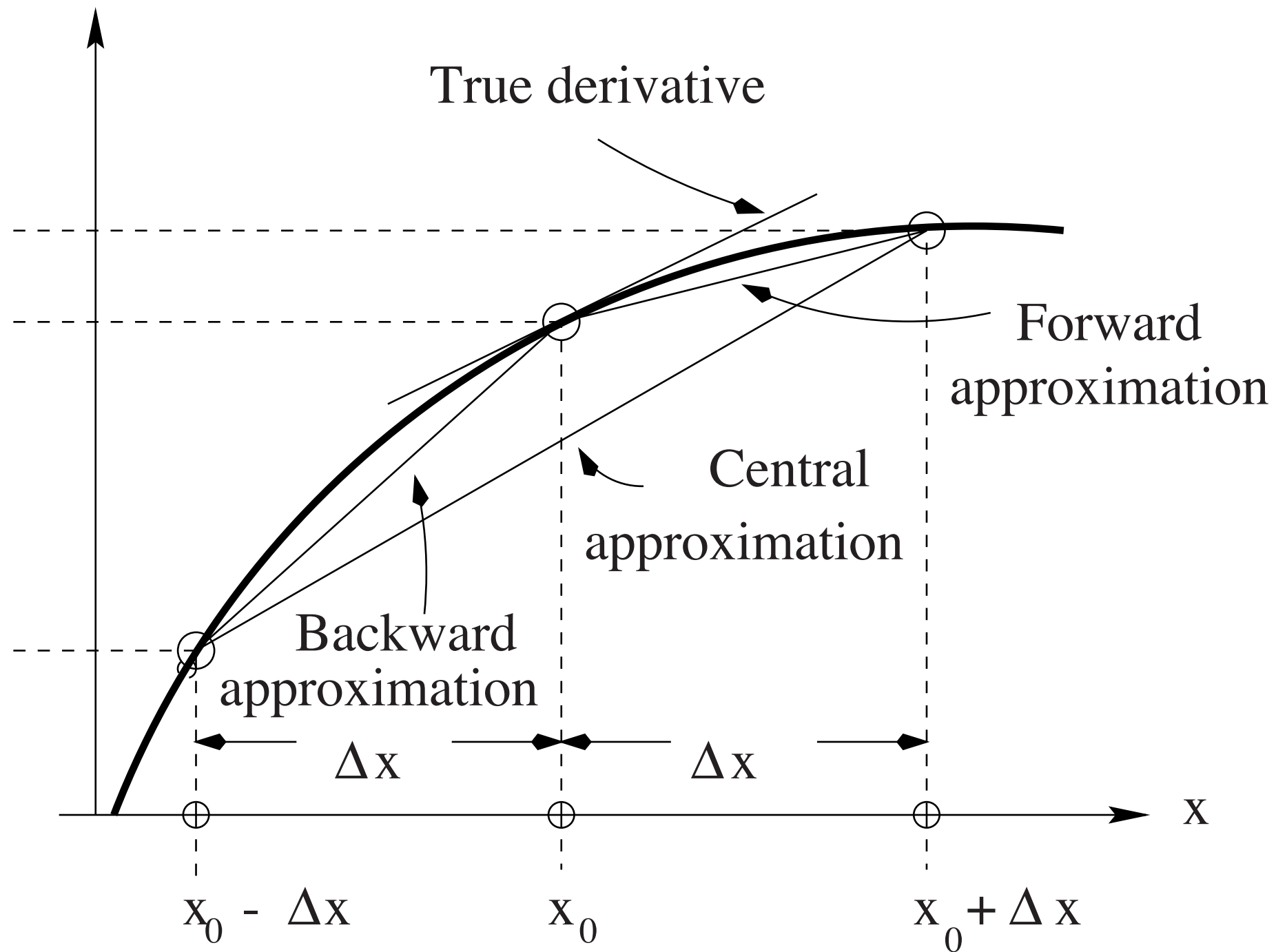
ASTR 670: Interstellar medium and gas dynamics

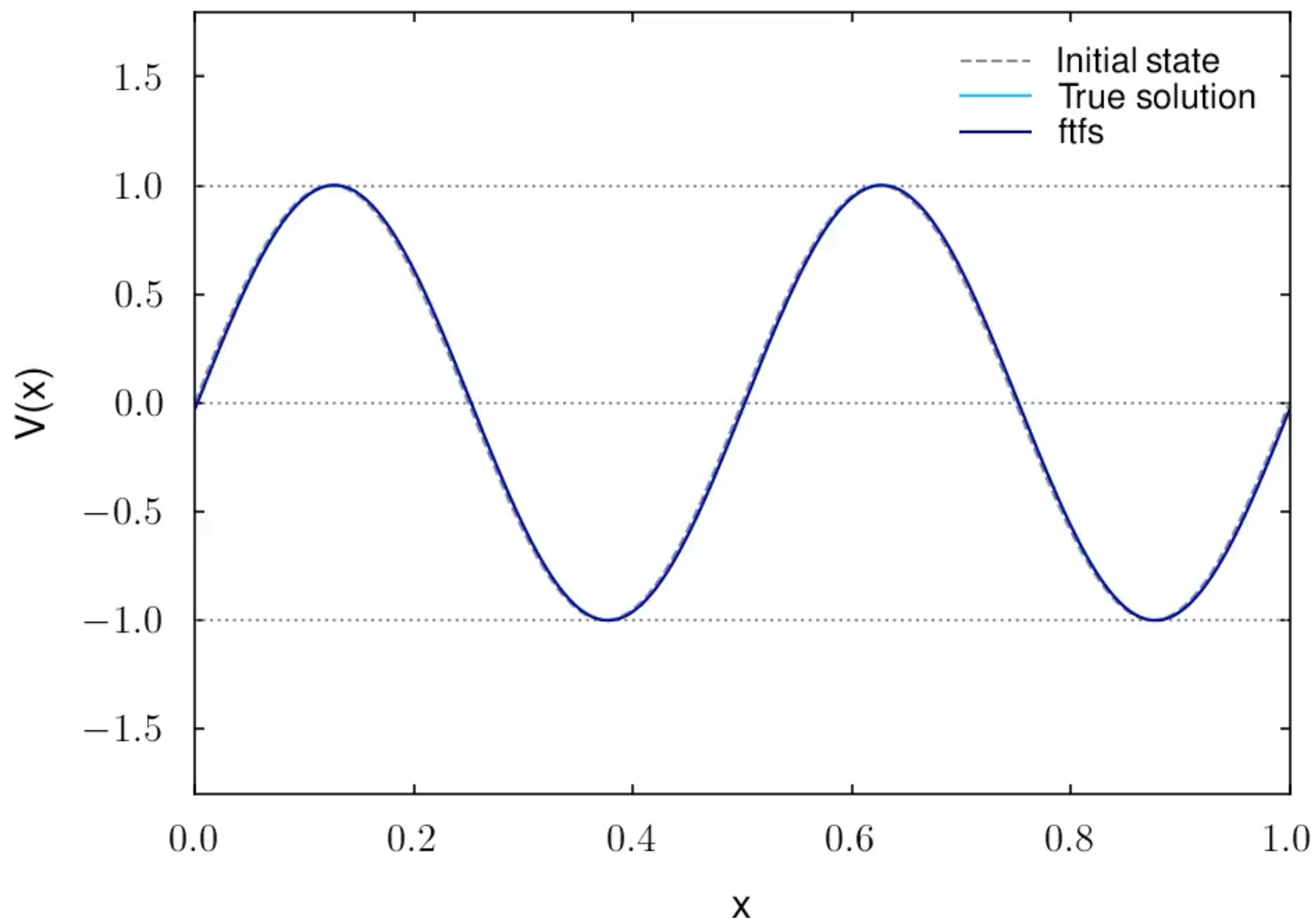
Prof. Benedikt Diemer

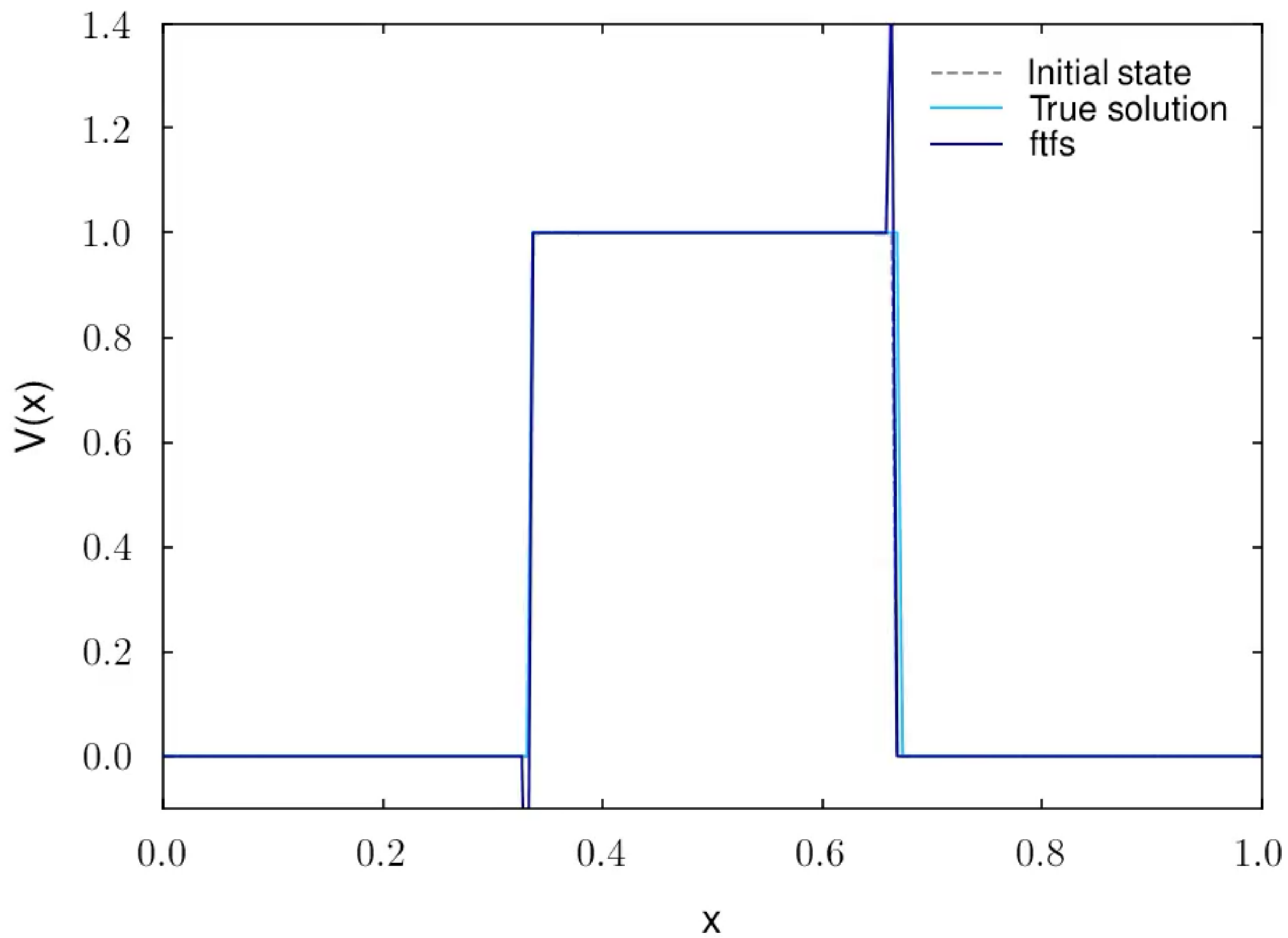


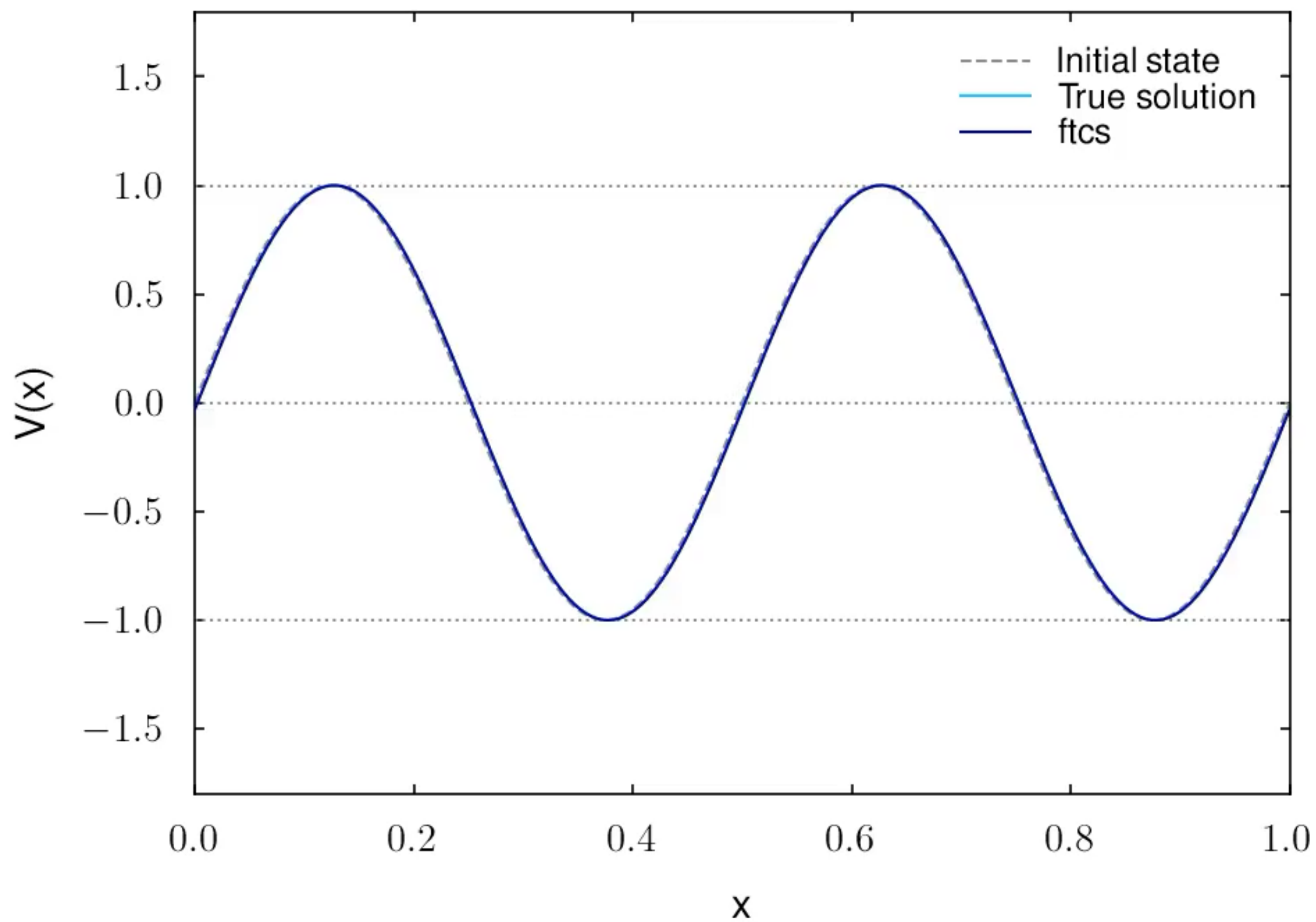
Chapter 6 • Computational hydro II: Finite-differencing schemes

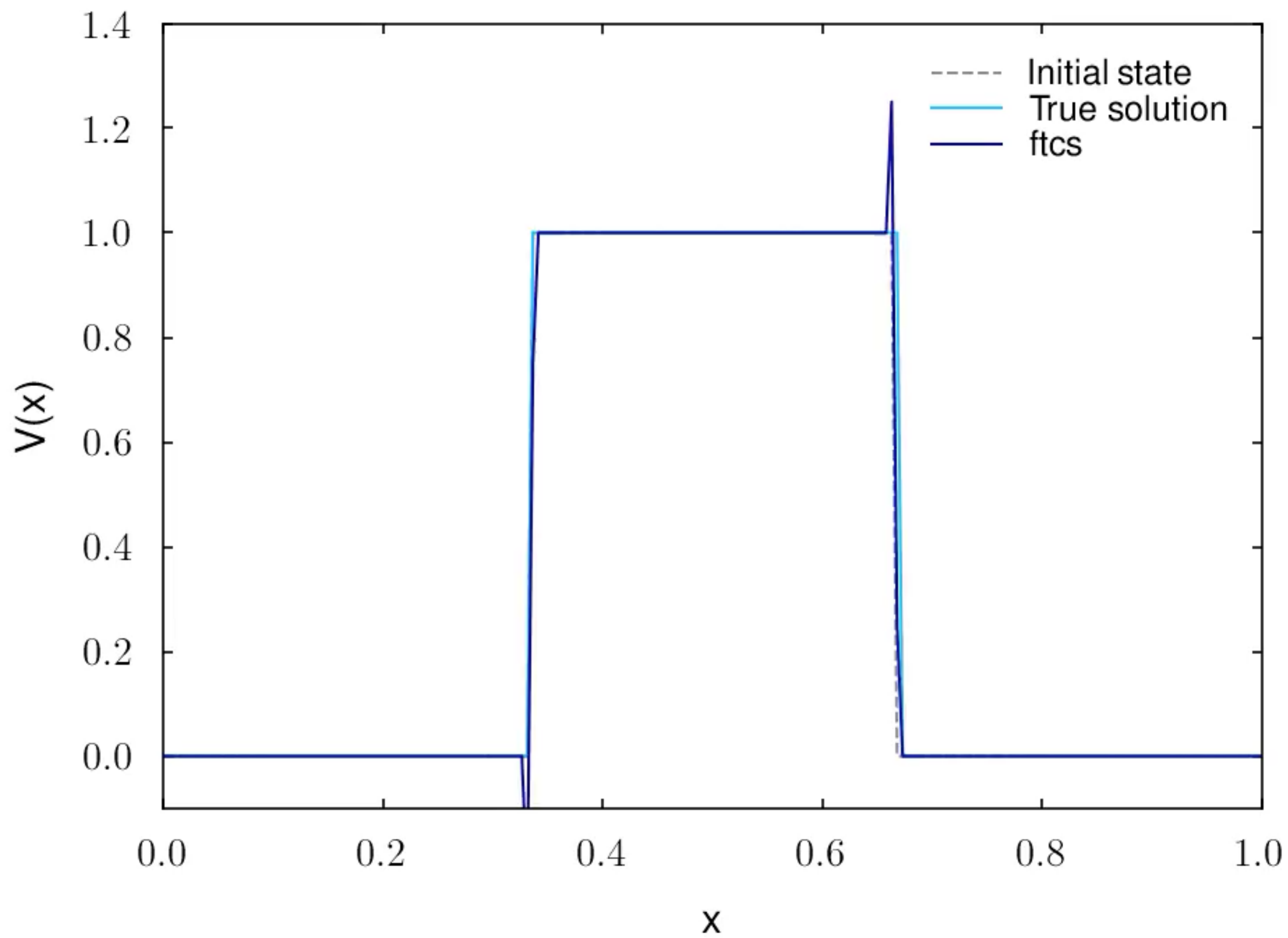
Approximations to derivatives

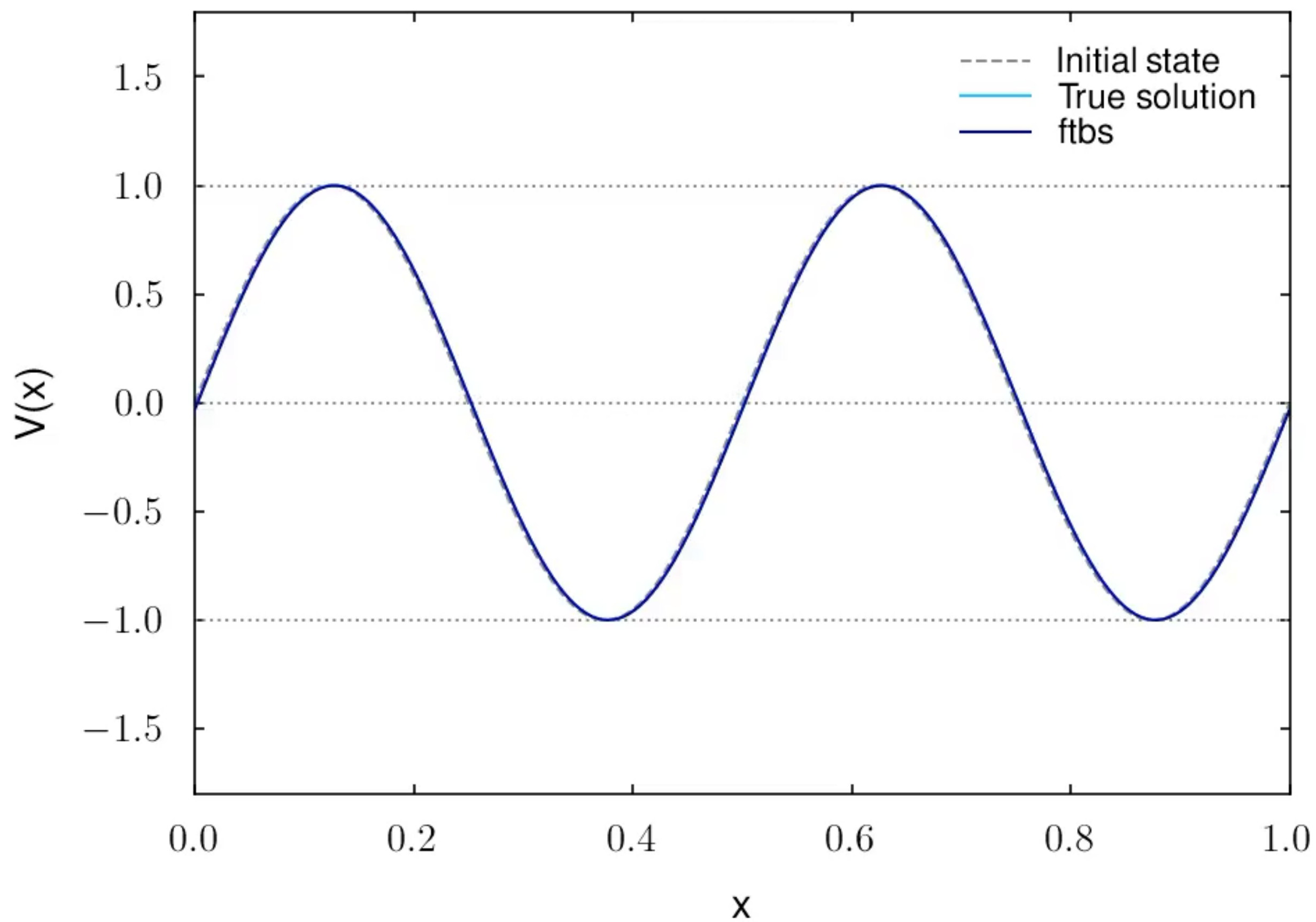


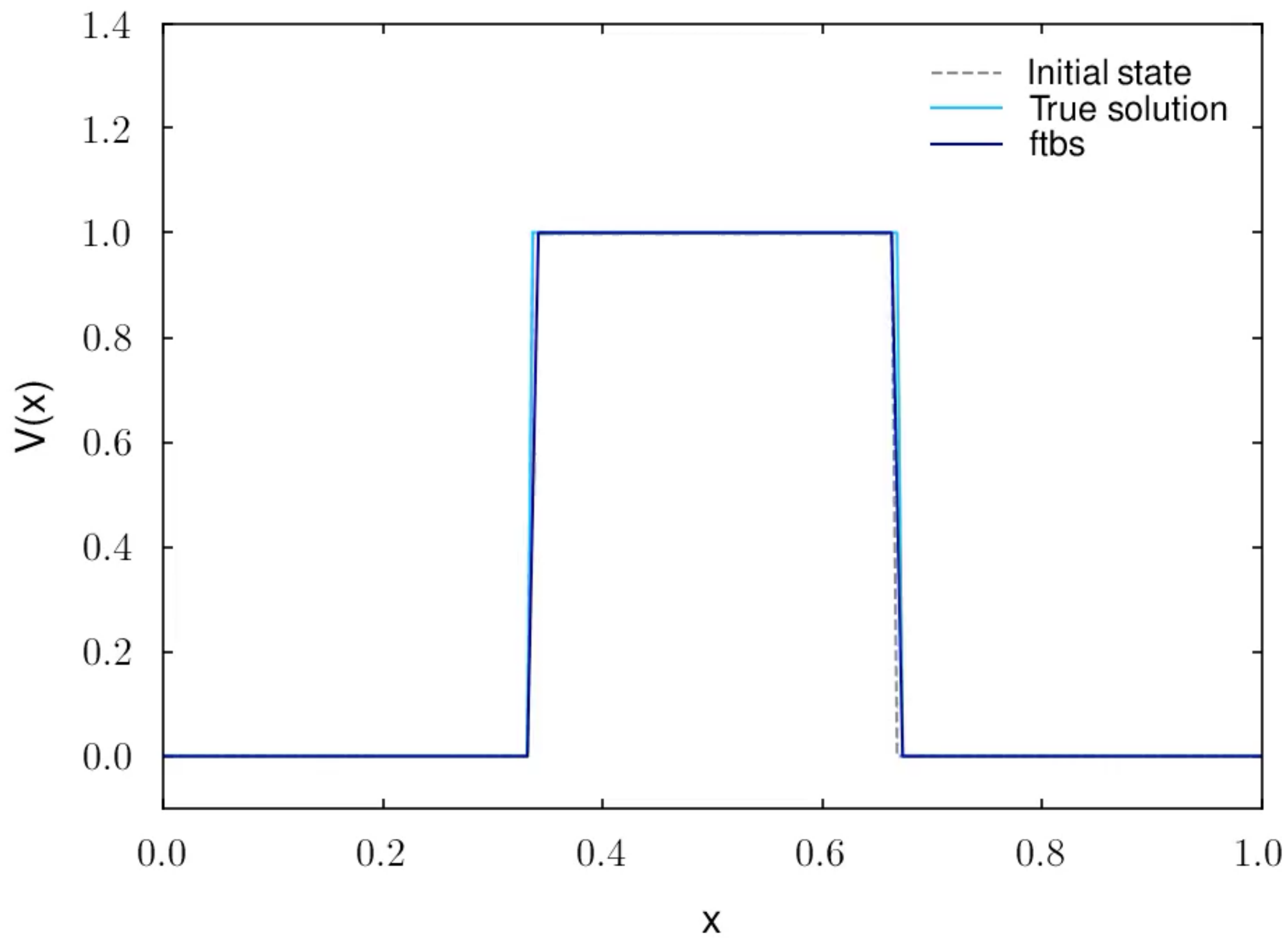






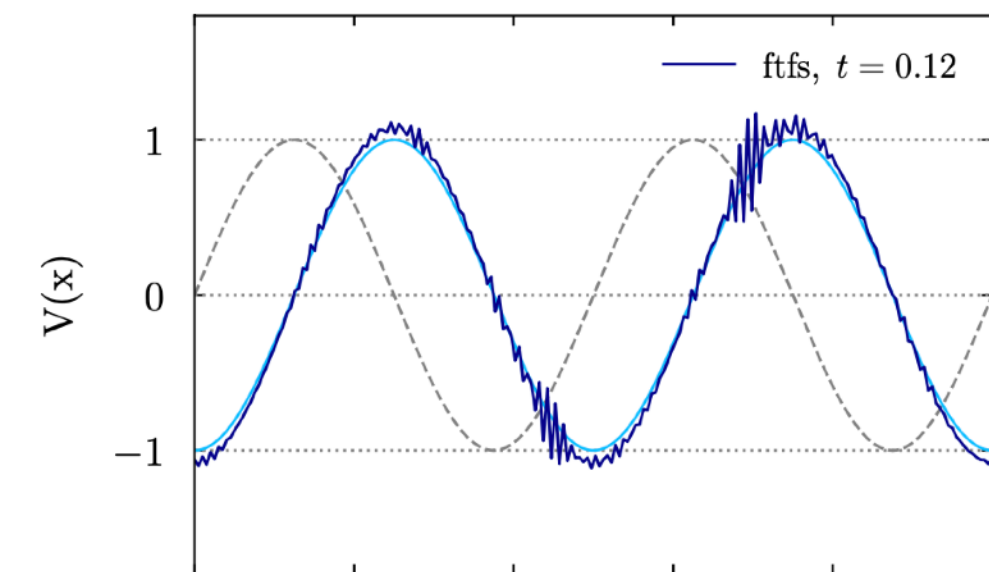




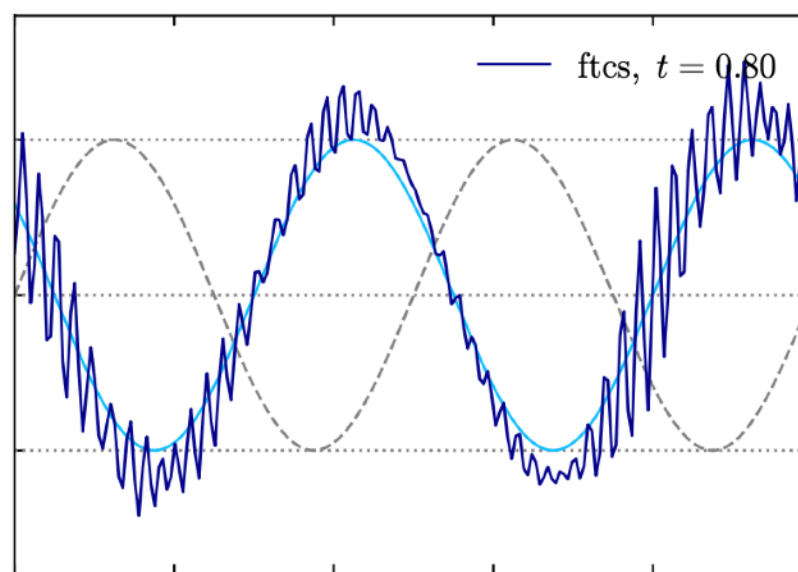


Test results

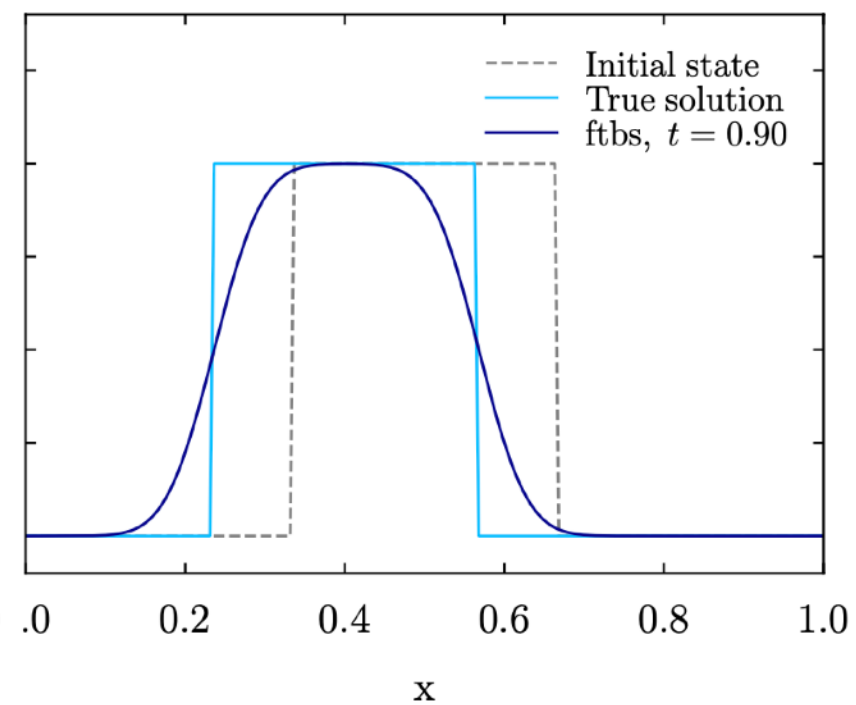
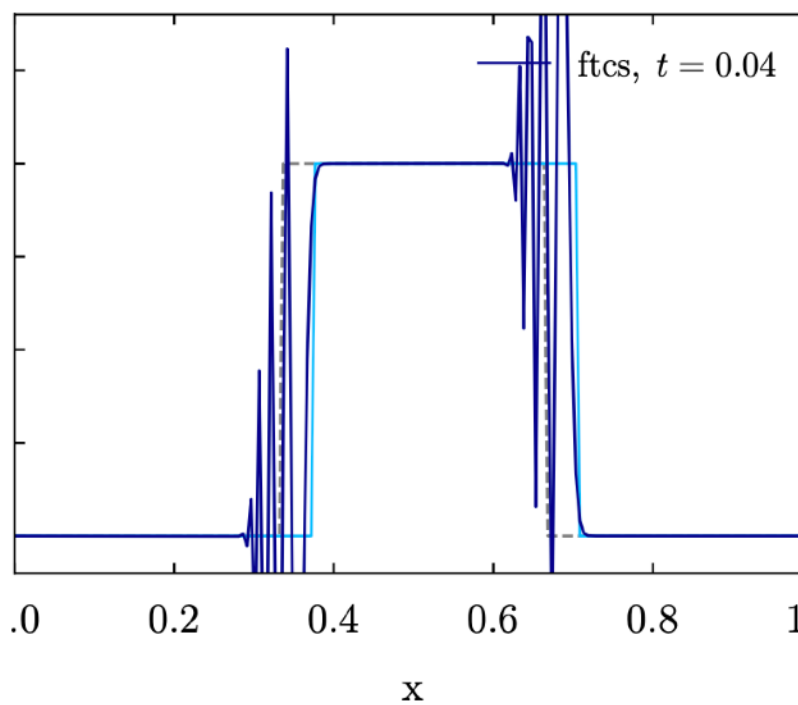
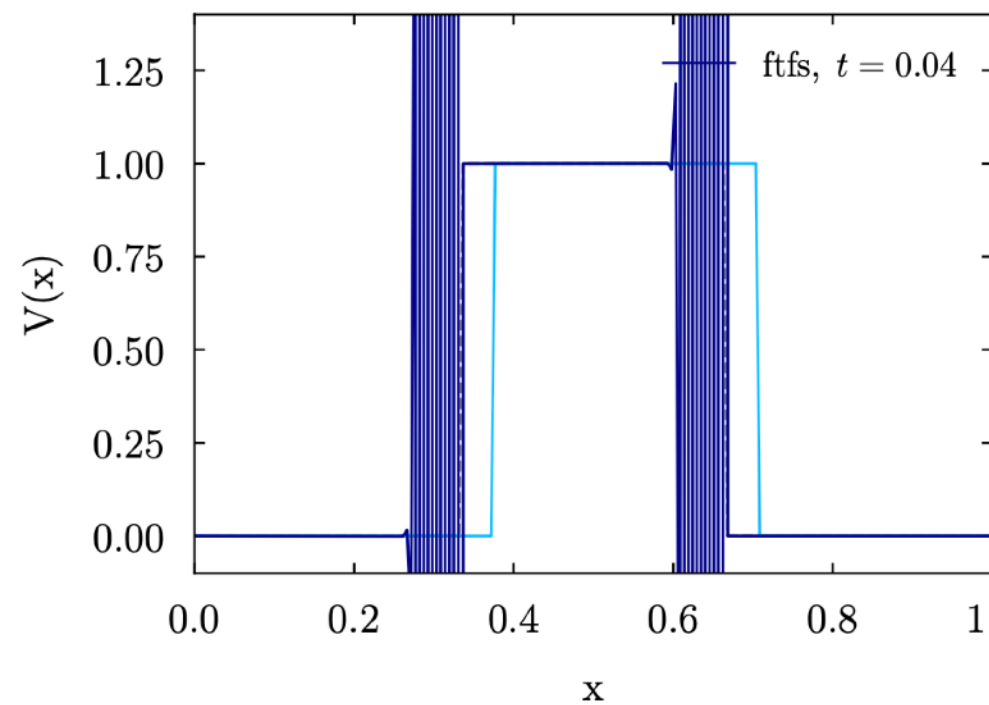
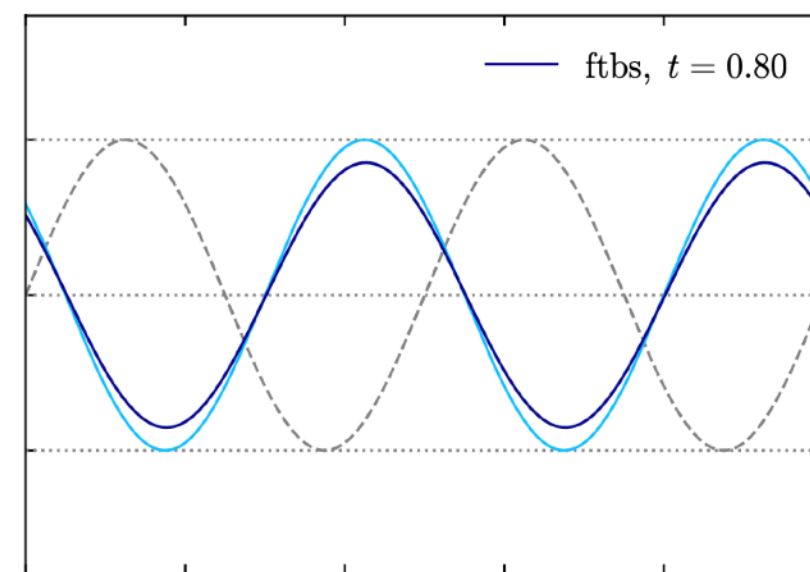
FTFS



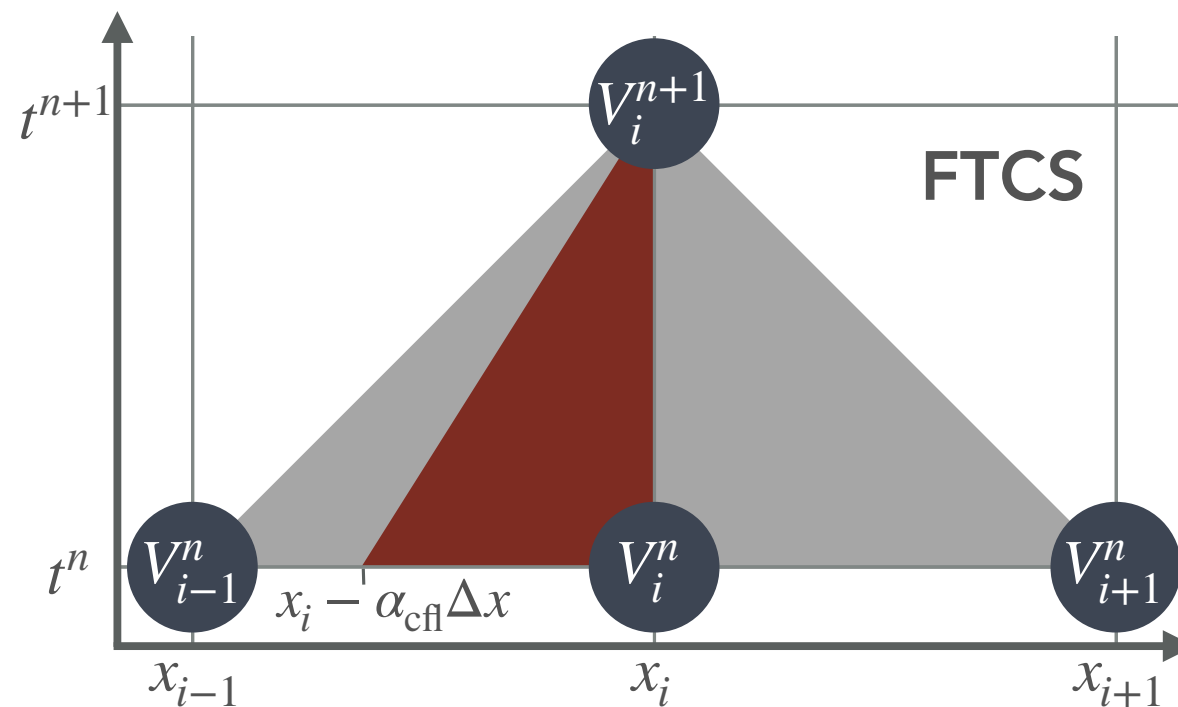
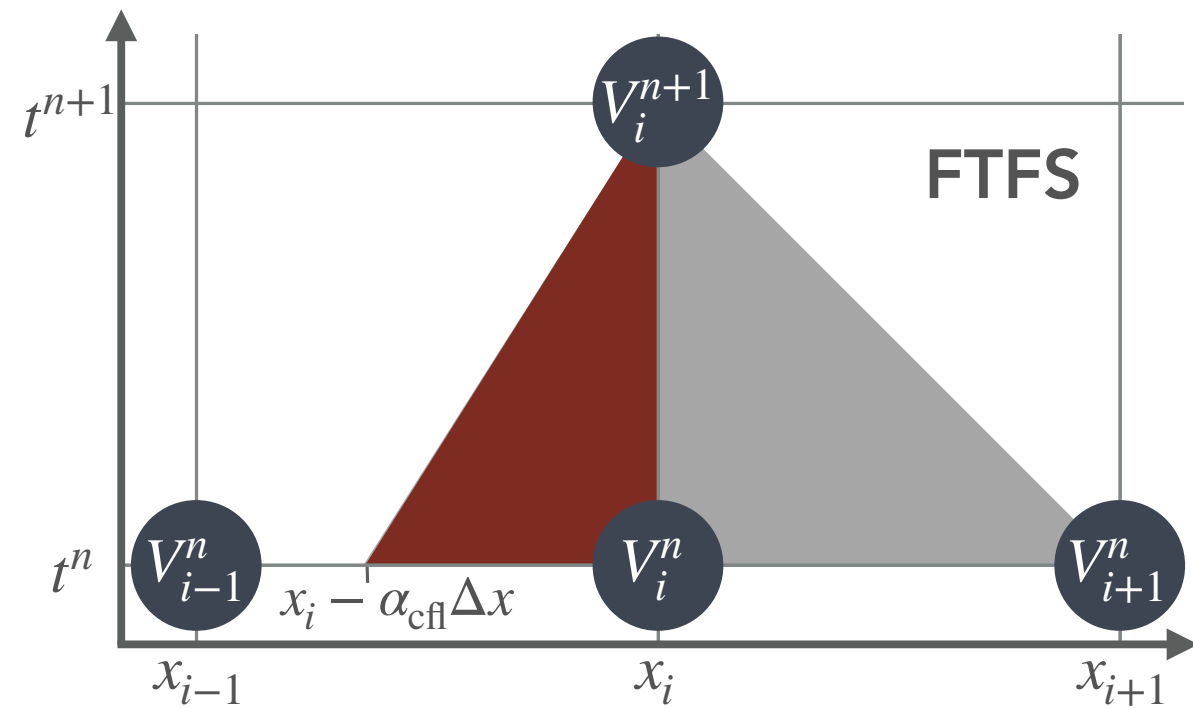
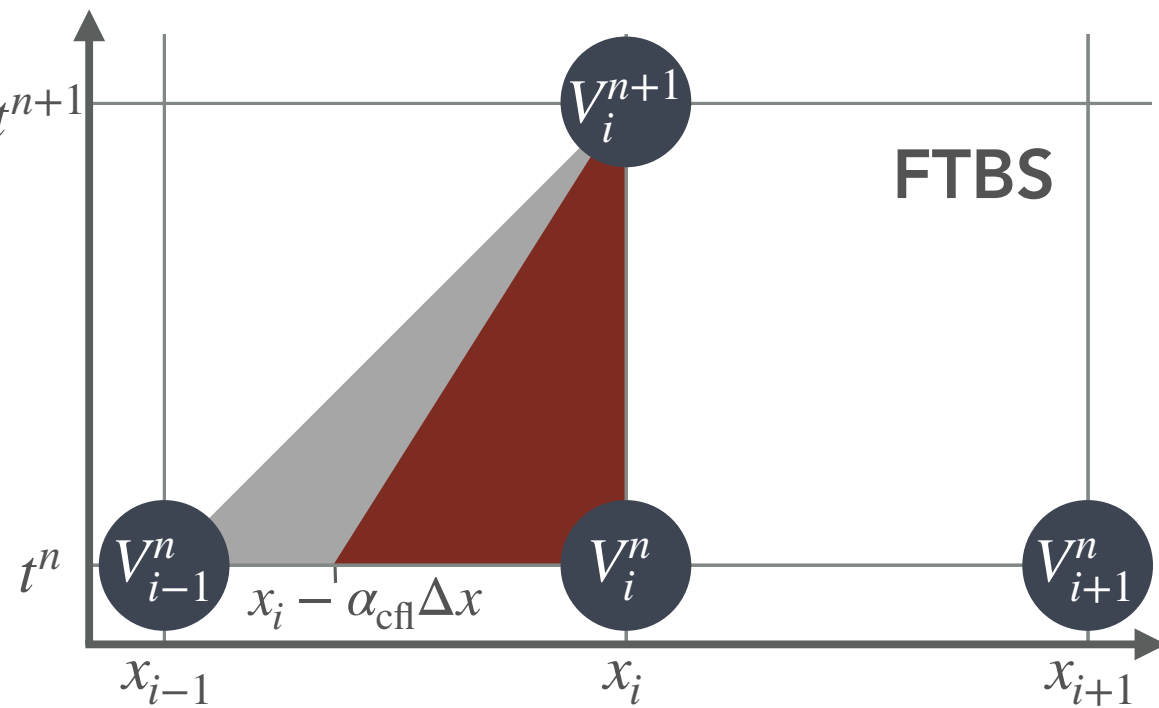
FTCS



FTBS



Domain of dependence

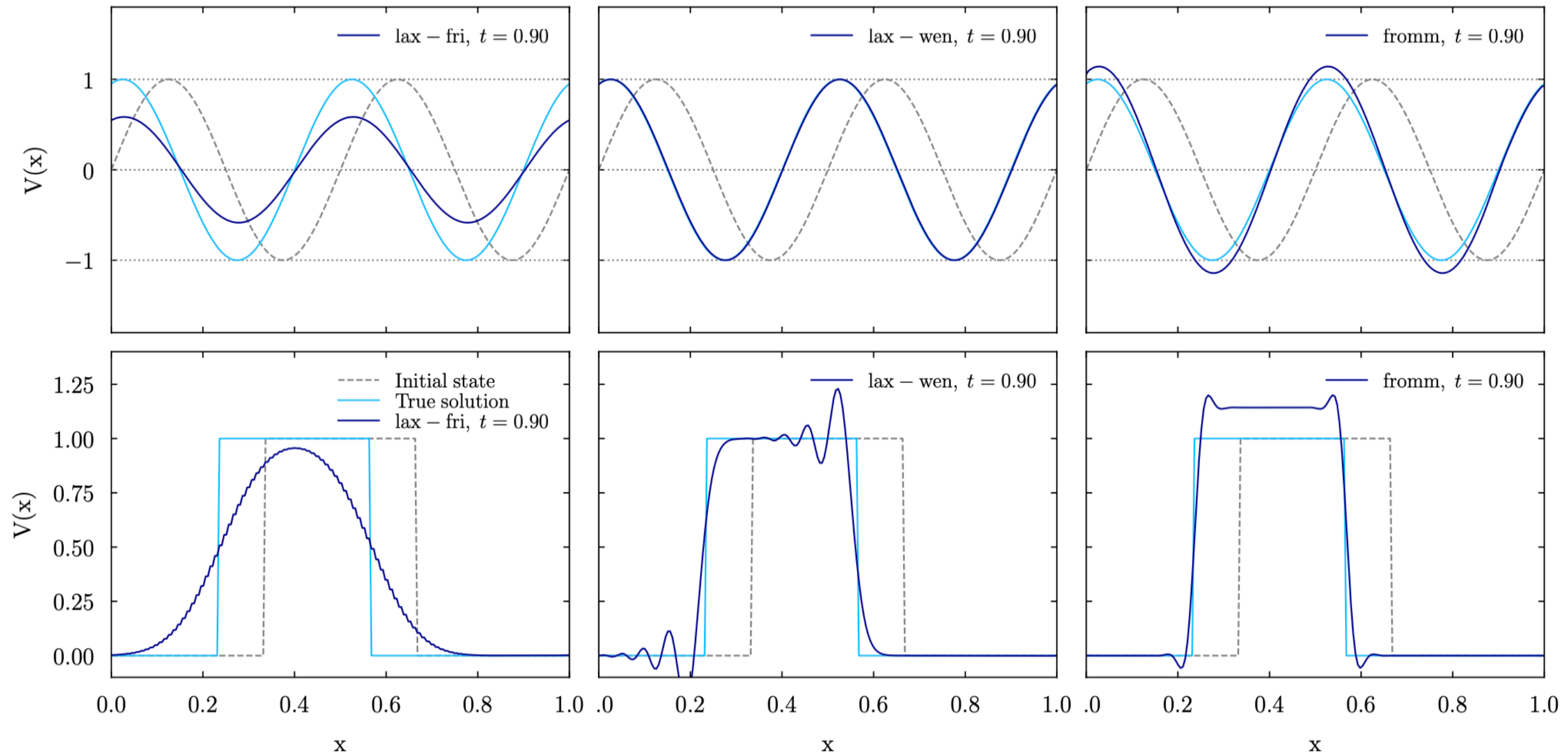


Higher-order schemes

Lax-Friedrichs

Lax-Wendroff

Fromm



Reading

- Zingale §1.2.2, §1.2.5, §4.1-3