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Finite Drude weight for 1D low temperature conductors DARIUSH HEIDARIAN, SANDRO SORELLA, Scuola Internazionale Superiore di Studi Avanzati (SISSA) — We apply well established finite temperature Quantum Monte Carlo techniques to one dimensional Bose systems with soft and hardcore constraint, as well as to fermionic spinless fermion systems. We give clear and robust numerical evidence that, as expected, no superfluid density (Meissner fraction) is possible at *any* non zero temperature in one dimensional interacting Bose (Fermi) lattice models, whereas a finite Drude weight is generally observed in gapless systems, contrary to previous expectations.

☒ Prefer Oral Session
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