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Boosted one dimensional superconductors on a lattice SAYONEE RAY, SUBROTO MUKERJEE, VIJAY B. SHENOY, Indian Institute of Science — We study the effect of a boost (that engenders a current-carrying state) on one dimensional systems of lattice fermions with short-ranged attractive interactions. In the absence of a boost such systems possess algebraic superconducting order. Naively, one might expect a boost to weaken and ultimately destroy superconductivity, as in higher dimensions. However, we show that for one dimensional systems its effect is to *strengthen* the algebraic superconducting order by making correlation functions fall off more slowly with distance. We explain the physical underpinnings of these findings.

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