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**Exact Speed of Sound for all  $T, \mu$  at Large  $N$**  MAX WEINER,  
University of Colorado, Boulder, PAUL ROMATSCHKE COLLABORATION —  
We calculate the exact speed of sound for all  $T, \mu$  in the large  $N$  limit for the Gross-Neveu (GN) model in 2+1 dimensions utilizing a non-perturbative field theory technique. At large  $N$ , the GN model has a chiral symmetric and broken phase separated by a cross-over and critical point at  $T = 0$ . We discuss the behavior of the speed of sound in the whole  $T, \mu$  plane numerically without any approximations or conjectures (except for large  $N$ ). We find that the speed of sound displays non-monotonic behavior and exhibits a discontinuity across the critical line. If time allows, potential lessons for QCD will be discussed.

Max Weiner  
University of Colorado, Boulder

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