

Joint Quantum Institute Seminar  
April 21, 2008 at 12:30  
Physics 1201

**“Dynamics of Excitations in 1D Bose Liquid”**  
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We predict that the dynamic structure factor of a 1D Bose liquid has a power-law singularity, which defines the main mode of collective excitations. Using the Lieb-Liniger model, we evaluate the exponent characterizing singularity, as a function of the wave vector and the interaction strength. The Lieb-Liniger model allows us also to investigate the edge of the excitations continuum and relate the dynamic structure factor there to the creation of dark solitons by single photons.

Host UMD: Victor Galitski/ Luis Orozco