Beam Energy and System Size Dependence of Dynamical Netcharge Fluctuations MONIKA SHARMA, Panjab University, Chandigarh, India, CLAUDE PRUNEAU, SERGEI VOLOSHIN, Wayne State University, Detroit, Michigan, USA, MADAN AGGARWAL, Panjab University, Chandigarh, India, GARY WESTFALL, Michigan State University, East Lansing, Michigan, USA, BEDANGA MOHANTY, Lawrance Berkerly National Laboratory, Berkerly, CA, USA, STAR COLLABORATION — We present measurements of net charge fluctuations in Au + Au collisions at $\sqrt{s_{NN}} = 20$, 62.4, 130, and 200 GeV, Cu + Cu collisions at $\sqrt{s_{NN}} = 62.4$, 200 GeV, and p + p collisions at $\sqrt{s_{NN}} = 200$ GeV, using the net charge dynamical fluctuations measure $\nu_{+-,dyn}$. We observe the dynamical fluctuations are finite at all energies and exhibit a rather modest dependence on beam energy. We also observe weak system size dependence. We examine the collision centrality dependence of the net charge fluctuations and find net charge violate the trivial $1/N_{CH}$ scaling expected for nuclear collisions consisting of independent nucleon-nucleon interactions but however display $1/N_{part}$ scaling. We also studied the azimuthal and rapidity dependence of the net charge correlation strength and observed strong dependence on the azimuthal angular range and pseudorapidity bins integrated to measured the correlation. We argue this dependence may arise due to large radial flow.

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