Abstract Submitted
for the TSF05 Meeting of
The American Physical Society

Dynamical aspects of isoscaling CLAUDIO DORSO, Departamento de Fisica, FCEN, Universidad de Buenos Aires, Nunez, Argentina, CHRISTIAN ESCUDERO, Department of Physics, University of Texas at El Paso, El Paso, Texas 79968, U.S.A., M. ISON, Departamento de Fisica, FCEN, Universidad de Buenos Aires, Nunez, Argentina, JORGE LOPEZ, Department of Physics, University of Texas at El Paso, El Paso, Texas 79968, U.S.A., DEPARTMENT OF PHYSICS, UNIVERSITY OF TEXAS AT EL PASO, EL PASO, TEXAS 79968, U.S.A. COLLABORATION, DEPARTAMENTO DE FISICA, FCEN, UNIVERSIDAD DE BUENOS AIRES, NUNEZ, ARGENTINA COLLABORATION — The origin and dynamical evolution of isoscaling was studied using classical molecular dynamics simulations of 40Ca + 40Ca, 48Ca + 48Ca, and 52Ca + 52Ca, at beam energies ranging from 20 MeV/A to 85 MeV/A. The analysis included a study of the time evolution of this effect. Isoscaling was observed to exist in these reactions from the very early primary isotope distributions (produced by highly non-equilibrated systems) all the way to asymptotic times. This indicates that isoscaling is independent of quantum effects and thermodynamical equilibrium. In summary, collision-produced isoscaling appears to be due more to the mere partitioning of the proton-neutron content of the participant nuclei, than to specific details of the reaction dynamics.

Christian Escudero
Department of Physics, University of Texas at El Paso
El Paso, Texas 79968, U.S.A.

Date submitted: 15 Sep 2005 Electronic form version 1.4