Abstract Submitted
for the MAR07 Meeting of
The American Physical Society

Role of Physique on Probability of Injury to the Neck SAAMI J. SHAIBANI, Independent Modeling, Algorithms & Analytical Studies (IMAAS) — The primary emphasis in governmental regulation for the prevention and mitigation of automotive trauma tends to be restricted to just a few human surrogates; for example, most Federal Motor Vehicle Safety Standards in the United States involve a 50th-percentile male. This practice is known to conflict with real life, and it can lead to the problem of having safety equipment that is designed to protect some people but can kill or seriously injure others. The influence of physique on neck injury potential is best determined by isolating it as the sole variable in an insult, a constraint satisfied only when there are isokinetic and isogeometric conditions. The latter require there to be pairs of same-vehicle occupants, which are much less common than those relating to the effect of other parameters for impact[1] and environment[2]. Among a possible 60 or so such pairs in the large patient cohort assembled for this study, various subsets were identified as being suitable for detailed research on neck injury and the results of this are reported here.
[1] Bull Am Phys Soc, 45, 1018 (2000);
[2] Bull Am Phys Soc, 51, 1524 (2006).

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Date submitted: 13 Nov 2006 Electronic form version 1.4