Title

A Statistical Treatment of Angular Momentum Fractionation in Heavy Ion Reactions

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Abstract

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A STATISTICAL TREATMENT OF ANGULAR MOMENTUM FRACTIONATION IN HEAVY ION REACTIONS

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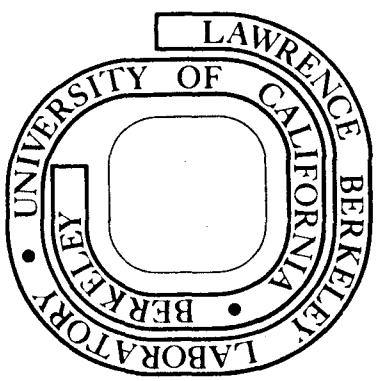

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A Statistical Treatment of Angular Momentum Fractionation in Heavy Ion Reactions.* R. P. SCHMITT, and L. G. MORETTO, Lawrence Berkeley Laboratory,# Berkeley, California 94720. -- On the basis of gamma-ray multiplicity data it has been suggested[1] that there is an angular momentum fractionation along the mass asymmetry coordinate. To shed light on this matter we consider a two sphere model in which statistical equilibrium has been achieved. Model calculations clearly demonstrate an angular momentum fractionation which concentrates the highest angular momenta at symmetry. Furthermore, the calculations show that there are distinct differences in the fractionation pattern for deep-inelastic reactions and for compound nucleus fission.

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1. M.M. Aleonard et al, Phys. Rev. Lett. 40, 622 (1978).

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