

Abstract Submitted
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Dynamically Invariant Entanglement in Particle Collisions¹

NATHAN HARSHMAN, Physics Program, American University — When most people think of entanglement, they think of interparticle entanglement. For example, how is Alice's particle correlated to Bob's particle? However, other kinds of entanglement can be defined. Any partition of a complete set of commuting observables implies a tensor product structure, and therewith, a kind of entanglement. These other kinds of entanglement can be useful for understanding particles and the generation of entanglement in collisions. For example, only certain kinds of entanglement are invariant under a change of reference frame. In particular, the entanglement between internal and external degrees of freedom is invariant and it is conserved in collisions.

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