



Contribution ID: 1

Type: not specified

## Testing special relativity through decay of high energy particle

An important test of the special relativity theory consists in verifying two key predictions: the relative widths of unstable particles are independent from their Lorentz boost and their laboratory lifetimes is proportional to the boost parameter

$\gamma$ . These predictions can be subject to experimental tests measuring lifetimes and branching ratios of unstable particle in flight at variable  $\gamma$ .

This field is relatively unexplored: only in few cases precision measurements of particle lifetimes at different  $\gamma$  have been performed. After a brief introduction to the theoretical framework we present some suggestions for possible future experiments.

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