How should we run the poster session?

A. One presentation at a time
B. All presentations happening at the same time
C. Some other idea

ANNOUNCEMENTS

- Departmental Computational Physics Survey
  - Should be in your email! Please fill out.

Are energy and rest mass Lorentz invariants?

A. Both energy and mass are invariants
B. Only energy is an invariant
C. Only rest mass is an invariant
D. Neither energy or mass are invariants

$$E - E_{rest} = (\gamma - 1)mc^2$$

What happens to the difference in the total and rest energies when the particle speed (u) is much smaller than c?

A. It goes to zero
B. It goes to $m\,c^2$
C. It goes to $1/2\,m\,u^2$
D. It depends

What's $p_\mu p^\mu$?

A. γmc^2
B. $-\gamma mc^2$
C. mc^2
D. $-mc^2$
E. Something else

E_{tot} is conserved but not invariant. What does that mean?

A. It's the same at any time in every reference frame.
B. It's the same at a given time in every reference frame.
C. It's the same at any time in a given reference frame.
D. Something else

m is invariant but not conserved. What does that mean?

A. It's the same at any time in every reference frame.
B. It's the same at a given time in every reference frame.
C. It's the same at any time in a given reference frame.
D. Something else

Charge is invariant and conserved. What does that mean?

A. It's the same at any time in every reference frame.
B. It's the same at a given time in every reference frame.
C. It's the same at any time in a given reference frame.
D. Something else

Do you see a problem do you see with $\mathbf{F} = \dfrac{d\mathbf{p}}{dt}$ with regard to relativity? We still define $\mathbf{p} \equiv \gamma m \mathbf{v}$.

A. There's no problem at all
B. Yup there's a problem, and I know what it is.
C. There's probably a problem, but I don't know what it is.