

Review of the article

First-time observation of Timelike Compton Scattering

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- General remarks.

The target journal is PRL.

Manuscript reported the first ever measurement of Timelike Compton scattering. Both the photon circular polarization asymmetry and Forward/Backward asymmetry were extracted. The comparison of the measured polarization asymmetry with model predictions points toward the interpretation of GPDs as universal functions. These results are a significant achievement in the field.

The manuscript is well organized and clearly written. The technical quality and scientific rigor of the manuscript are very good and the main conclusion is well supported. The references to the literature are adequate. The title and abstract of the article are informative and clear.

The theoretical introduction is understandable for a nonspecialist. The experimental setup and details of the data analysis are briefly described.

- Page 1, line 22

It is not clear what the authors want to tell. Do we have progress in Lattice QCD or not?

”In spite of the recent progress in Lattice QCD, QCD-based calculations cannot yet be performed to explain the properties of nucleons in terms of their constituents.”

- Page 1, line 23

Language: ...in Lattice QCD, QCD-based...

- Page 1, line 31

Language: The whole sentence starting with
They describe..., they give.....and they are

- Page 1, line 65

$$t = (p - p')^2$$

- Page 1, line 70

Insert noindent

- Line 84, 169, 180, 226, 227, 245302, 307, 321
Figure 2 \rightarrow Fig. 2 etc.
- Page 2, line 136
High Threshold
- Page 2, line 139
minimum \rightarrow minimum
- Page 2, line 164
Remove brackets in $\cos \theta_X$
 $Q^2 = 2E_b E_X (1 - \cos \theta_X)$
- Page 2
Eq.6 is confusing. E_X and θ_X are unknown.
- Fig. 3. Change red color to black.
Also add above 1.5 GeV and below J/ψ mass
- Page 3, line 185
 e^+e^- , ”-” has to be in upper script
- Page 4, line 253-254
The error bars of the average kinematics $E = 7.29 \pm 1.55$ GeV; $M = 1.8 \pm 0.26$ GeV
are not discussed in the letter.
- Page 4, line 274
tends
- Page 4, line 318
underestimates
- Page 5, line 340
Jlab
- Page 5, line 370
Move reference ”*chatagnon@ipno.in2p3.fr” to Page 1.
- Page 5, line 376
Move [5] in front of [4]
- Page 5, line 383
Remove 0711.4805
- Page 6 line 430
Remove 1704.07330