



Contribution ID: 62

Type: **Talk**

Angular correlations in Compton scattering of entangled and decoherent annihilation photons

Tuesday 31 August 2021 11:30 (30 minutes)

The work is dedicated to the experimental study of Compton scattering of entangled and decoherent annihilation gammas. The pairs of entangled annihilation photons are produced in electron-positron annihilation. The polarization state of each gamma in such a pair is indefinite. However, the relative polarizations of the photons are orthogonal. After interacting with matter, the initially entangled state of the photons becomes decoherent. And both gammas have the definite polarizations. Since Compton scattering depends on the polarization of photons, the scattering kinematics of entangled and decoherent photons can be quite different. We present the experimental setup for measuring Compton scattering of entangled and decoherent annihilation photons in different states of polarization. The first results on the angular correlations of scattered photons are also discussed.

Is this abstract from experiment?

Yes

Name of experiment and experimental site

N/A

Is the speaker for that presentation defined?

Yes

Details

Speaker: Mr. Alexander Strizhak. INR RAS, Russia. <https://inr.ru/english.html>

Internet talk

Yes

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Session Classification: C Quantum Physics, Quantum Optics and Quantum Information