



Contribution ID: 159

Type: Poster

# The Transparency Effect in Two Wall Acoustic Tubes at the Presence of Standing and Running Acoustic Fields Exited There

Wednesday, 26 September 2018 18:40 (1 hour)

The transparency effect in two wall acoustic tubes at the presence of standing and running acoustic fields excited there which allows to manage all working parameters of transparency.

It has been investigated experimentally and theoretically the dependence of X-ray absorption on the parameters of external acoustic waves [1]. Sharp decrease of the X-ray absorption coefficients has been observed for quartz crystals in Laue-geometry diffraction under full pumping conditions [2-4], depending on diffraction geometry parameters and amplitude of acoustic waves. Under certain conditions the linear coefficient of absorption decreases to zero. The phenomenon mentioned above may be interpreted as X-rays coherent scattering.

Under certain conditions the acoustic waves lead to the formation of strong bounded electron system or to the formation of double-wall acoustic nanotubes. The state of the formed walls of the acoustic nanotubes can be described by means of the same wave functions. The photons interact with the walls as with collective scattering unit, and the wave function before and after interaction are the same.

1. A.R. Mkrtchyan, A.H. Mkrtchyan at all, Charged and neutral particles channeling phenomena Channeling 2008, Copyright 2010 by world Scientific publication Co. Pte. Ltd, ISBN-13 978- 981-4307-00-0, pp. 306-308.
2. A.R. Mkrtchyan, M.A. Navasardyan, V.K. Mirzoyan, Technical Physics Letters, 1982, vol.8, B.11, pp.677-680.
3. A.R. Mkrtchyan, M.A. Navasardyan, R.G. Gabrielian at all. Technical Physics Letters, 1983, v.9, B.11, p.1181.
4. R.G. Gabrielyan, H.A. Aslanyan, Phys. Stat. sol.(b), 1984, V123, pp. K97-K99.

**Primary author:** Prof. MKRTCHYAN, Alpik (Institute of Applied Problems of Physics NAS RA)

**Co-authors:** Dr MKRTCHYAN, Artak (Institute of Applied Problems of Physics NAS RA); Dr KOCHARYAN, Vahan (Institute of Applied Problems of Physics of NAS RA, 0014, Hr. Nersisyan str. 25, Yerevan, Armenia. National Research Tomsk Polytechnic University 634050, Lenin Avenue 30, Tomsk, Russia.)

**Presenter:** Prof. MKRTCHYAN, Alpik (Institute of Applied Problems of Physics NAS RA)

**Session Classification:** PS2 - Poster session