

**TRANSVERSE ELECTRON ACCELERATION IN THE FIELD OF TERAHERTZ
RADIATION.**

TERAHERTZ SYNCHROTRON

M.Yu. Romanovsky

Federal Agency for Scientific Organizations,

Leninsky prosp. 32A, 119991 Moscow, Russia; Moscow Technological

University (MIREA), prosp. Vernadskogo 78, 119454 Moscow, Russia;

e-mail: slon@kapella.gpi.ru

We study transverse acceleration of an electron introduced to a terahertz pulse along the direction of the electromagnetic field wave vector in the presence of an external permanent magnetic field. We estimate the possible increment of the electron energy as well as the acceleration length and turn angle of the electron leaving the pulse. The developed acceleration scheme may be employed (in addition to the electron accelerator itself) in a terahertz synchrotron, possible parameters of which are estimated.