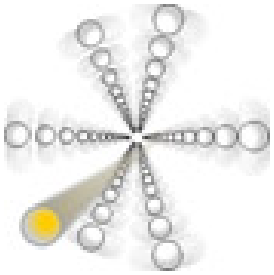

Contribution ID: **40** Type: **not specified**

DYNECHARM++: a Software to Simulate the Motion of Charged Particles in Complex Atomic Structures

Monday, 24 September 2012 19:29 (1 minute)

Charged particle impinging onto a crystal with small angle with respect to an atomic plane or axis can undergo planar or axial channeling regime with high probability. Trajectory of a ultra-relativistic particle under channeling regime can be studied through the usage of continuous potential approximation [1] and approximation of relativistic equations of motion [2]. Averaged electric field experienced by particles in their motion can be calculated through classical physical equations and the expansion of periodic functions as a Fourier series [3].
Based the on these calculation methods we have developed the PATAC code, which allows to integrate the particle equations of motion under channeling regime inside a complex atomic structures. The code has been written in C++ programming language to simplify the integration within other software. Comparison between simulations and experimental results have been carried out.

Primary author: Mr BAGLI, Enrico (FE)

Co-author: Prof. GUIDI, Vincenzo (FE)

Presenter: Mr BAGLI, Enrico (FE)

Session Classification: PS1 Poster Session

Track Classification: Poster Session