Application for the student session

Presentation title:
Research on terahertz radiation generation method based on advanced beam manipulation technology

Abstract:
In recent years, with the progress of THz source technology, the relevant characteristics and applications of terahertz have attracted the interest of the general researchers. The terahertz wave has broadband, low energy characteristics, has a huge role in security inspection, medical imaging and other industries, and in scientific applications, terahertz radiation is a good tool. THz radiation enables one to specifically target excitations of interest, thus opening the door to controlled manipulation of reactions and processes as well as material properties. Extreme relativistic electron beams generated on electron accelerators can produce high energy, broadtuned THz radiation light that can meet the needs of the vast majority of scientific applications. The primary key is to produce ultrashort electron beams or pulse strings and then select different radiation media according to the situation. Here we are methods to obtain ultra-short electron beams, and then select coherent transition radiation or undulator radiation to obtain high-energy and wide-tuned light for THz studies.

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