

Title : Research activities on RF accelerators and Laser-Plasma accelerators

The RF accelerator technology has been developed since 1920s and the laser-plasma wakefield accelerator was proposed by Tajima and Dawson in 1979. In these days, there are many areas to use the accelerators for scientific researches, industrial processing, medical diagnostics or treatments, and so on. Among them, the important driving force in developing the accelerator technology may be the demand of higher energy, higher luminosity, higher resolution for exploring the origin of universe.

The conventional RF accelerators are well developed and operated with high stability, but larger system is required for the next experiments of high energy particle physics. The laser-plasma wakefield accelerators has been developed dramatically in two decades, but it needs more works to solve, such as, the stability and the higher luminosity. In these days, many groups have been developed the hybrid type by combining the strong points of both acceleration technologies.

I will introduce the brief mechanism, including related technologies, and the research activities on RF accelerators and Laser-Plasma accelerators in Korea.