

USE OF OBJECT ORIENTED INTERPRETIVE LANGUAGES IN AN ACCELERATOR CONTROL SYSTEM.

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In a control system for a high energy accelerator, like KEKB, quick application development/modification is required. This short turn-around time is especially important during a commissioning of the accelerator. In KEKB control system, we have achieved this goal by introducing interpretive programming languages, Python and SAD, in the control system. SAD is the language originally developed at KEK for accelerator lattice design. On the other hand, Python is the language system distributed as a public domain software. These languages are used not only for prototyping application but also for developing application software used in daily operation. These languages are easier to learn and safer to use compared to compiler languages such as C and C++. Interface to the appropriate widget library from these interpretive languages, such as Tk/gtk+ widget, greatly reduces effort needed to developing graphical user interfaces. Modular and object oriented features in the languages allow incremental development of application software. This method benefits reliability of software and maintainability of the software. Authors will discuss productivity, performance and maintainability of the system based on experiences in the KEKB control system.