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The BELLE Experiment at KEK B-Factory

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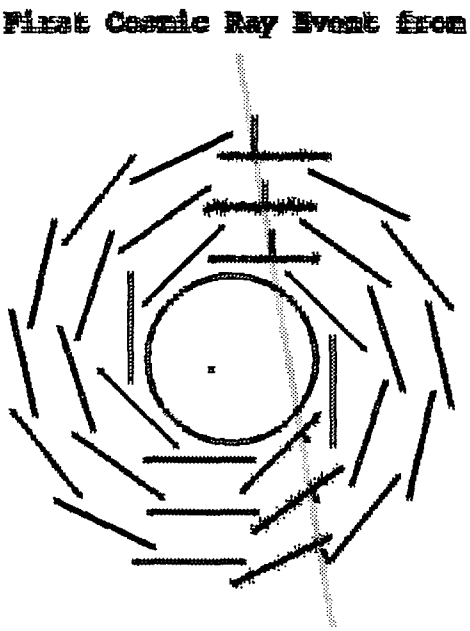
The BELLE experiment is dedicated to make precision tests of the Standard Model, in particular to measure CP-violation in B meson decays. It will be performed at the KEK-B e^+e^- asymmetric collider with the design luminosity of $10^{34}cm^{-2}s^{-1}$ corresponding to 10^8 $B\overline{B}$ pairs per year. The collider is now (January '99) being commisioned.

The experimental program requires an universal detector system capable to register a big variety of decay channels with high efficiency and excellent accuracy. In December 1998 the BELLE detector has been completed, now the apparatus is tested with cosmic tracks. The roll-in of the detector is scheduled for March and data taking should start in April '99.



The Cracow group participated in preparation of the silicon vertex detector (SVD), in particular in design, production and tests of the fast, readout system, capable to read data at 500 Hz trigger rate with a dead time below 10%. The readout modules are double width VME boards with three independent readout channels containing:

- 4 ADC's 10 bits (AD876 or AD9200);
- a front multi-event buffer (FIFO CY7C4261);
- a signal processor (DSP56302 - Motorola, 66MHz/66MIPS);
- an end multi-event buffer (FIFO CY7C4261);
- a control unit (XILINX4010).

The figure shows the first cosmic track registered in the BELLE SVD.

We have also been involved in physics simulations, in particular in studies of semitauonic B decays, which are described in a separate report.

[1]The BELLE collaboration consists of about 250 physicists from 45 laboratories.