

SVD in Beast II

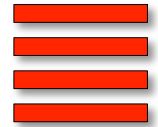
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The opinions here is my personal view and
there are no decisions in the SVD group.



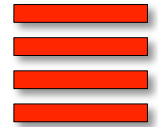
Purpose of SVD in Beast II



- From view point SVD hardware, the most important purpose is to decide when we install SVD.
 - When the average occupancy in Layer 3 becomes tolerable (50 % for example) we should decide the installation.
- For this decision, we do not need many layers.
 - Even we have four DSSD layers they will not help us to understand the background sources and how to stop them.



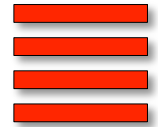
Dedicated BKG sensors



- Dedicated X ray and neutron sensors will be more useful than partial PXD / SVD sensors.
- The X ray, neutron sensors should distributed as much large acceptance as possible.
 - At least for 4 sensors (0, 90, 180 and 270°) in F and B direction.
 - From the ϕ , r and Z dependence we will be able to get the information of radiation sources and
 - Then we will reduce the BKG.
- Sensors to be used in Belle2 should be tested in Beast.



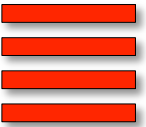
Operation of SVD



- The Belle2 SVD readout chain must be ready at the time of Beast2. Then we will use the system.
- If the DAQ system is not convenient, APVDAQ, a simple SVD readout system by Vienna group can be used.
 - APVDAQ was referred to in this meeting a few time
- We need data with and without external trigger.
- CO₂ cooling will not be essential.
- Since only 1 or 2 ladders are installed, a simple ladder support will be enough.



Summary



- At least one or two ladders of SVD will be installed in order to know the BKG condition to SVD.
 - I do not think the SVD-only tracking in Beast is worth trying unless we have enough people for read out, coding and data analysis.
- Dedicated X-ray and neutron sensors will be more useful for identifying the radiation source.