MRS acceptance Slides from August 2004

I have reviewed (or rather started) the geometric acceptance usage, both via the PC and The code from CEJ, as available from brahms_app/cej_app/acceptance. The previous plots have been done for FFS; what is addressed here is the MRS. As test bed for real data I took the data from the latest dst of 62 gev as produced by djam

The plot to the right shows data from a single vertex bin -2.5, 2.5, with tofslat required in the right active range I.e. 32-115 both in data and acceptance. The cuts along the lower p range that is defined by the tofslat is quit good, but the is an area for positive p at the smallest angle that is not in the data. This corresponds to going through the D5 to the right.



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Where does this come from?

The geom code by claus does not include any fidicual cuts from TPM2, which has a limited coverage in pad rows. The plot to the right shows it does not come from the back end of the TPC. The width of the TPC is +-36.8 cm (72*.47). The real tracks are way inside this range.

At the entrance it turns out that the first row active pads are 40 and 32 pads, which is narrower than the D5 magnet gap (to the right); Thus the active area of tpm2 must be important in determining the acceptance.





TPM2 front cuts.

The acceptance for TPM1 was approximated by a cut at the entrance corresponding to active pads +40,-32.

As can be seen in the plot to the right this is not perfect. The data is large than the acceptance. This is ok, unless one includes bins with acceptance << average acceptance. The plot here also has a fiducial magnet cut of 1 cm (both in data and acceptance). Thus the accp is not simply restricted by the entrance/exit position, and is somewhat complicate due to the active pad-layout.





Conclusions so far

- The MRS acceptance for pure geometry needs some attention relating to TPM2 active pads. If analysis is made with a narrower require slats, as may have been done for the preliminary au-au RAA result, this may not be an effect.
- The pure geometric acceptance is very good for a first approximation, but I have come to believe that we need in a second iteration to 'throw' the extracte distribution in the complete BRAG with physics processes turned on, with high statistics, and use this as a final correction. Otherwise we will be left with plenty of edge effects that are not simply excluded by cuts in p or pt.