We discussed the SIZE of the neutron beams for abBA and PANDA:

We estimated the expected neutron decay rate density. The abBA group reports 16 Hz/cm^3 UNPOLARIZED, while the PANDA proposal (based on the same numbers use to estimate the npdgamma statistics on FP13) uses a density of 1e^4/cm^3 UNPOLARIZED and thus a 11 Hz/cm^3 UNPOLAIRZED. Note, if the neutron polarizer is ^3He with 60% polarization, the PANDA estimate is 1.5 Hz/cm^3 of polarized neutron decays.

AbBA: due to the field expansion in the spectrometer, the size should be no larger than 2x2 cm. For NAB, this could be 2x4 cm, i.e. longer along the spectrometer B-field axis. The third dimension is not specified.

PANDA: the field does not expand in the same way. 2x6 cm is assumed, with the third dimension 2 cm (limited by the Silicon detector). Larger Si detectors would help.

Thinking ahead to the SNS era, the size of polarizer cell was considered. Five to six cm or larger diameter due to beam divergence (?)

Goals for Polarimetry Studies:  
abBA – mock up the concept, which envisions the beta decay asymmetry measurement as the polarimeter. In the Polarimetry studies, a 3He analyzer cell would take the place. Spin transport and possibly spin flipping would be studied.

PANDA – The experiment envisions using an analyzer to measure neutron polarization – just like the abBA mock-up. Thus the Polarimetry studies would redundantly measure neutron polarization (i.e. by two techniques), as well as spin flipping and spin transport.

The possibility of a Stern-Gerlach analyzer was mentioned.

Depolarization in material windows was noted, and a paper by Seppo and Dave (http://www.nist.gov/jres, vol 110(3),309-313 (2003)).

The confounding effects of beta-delayed neutrons were discussed. This would be measured at SNS, but the idea of doing so at LANSCE is not yet dead.

Also, we noted that the npdgamma experiment illustrates how backgrounds and changing backgrounds affect the measurement with transmission monitors (M1 and M2) particularly since the H2 target and ortho-hydrogen in particular, scatter so manere discussed. This would be measured at SNS, but the idea of doing so at LANSCE is not yet dead.
Also, we noted that the npdgamma experiment illustrates how backgrounds and changing backgrounds affect the measurement with transmission monitors (M1 and M2) particularly since the H2 target and ortho-hydrogen in particular, scatter so many neutrons and thus produce background that leaves open the question of how precisely the neutron polarization is known.