These DAs can be employed for computation of the pion electromagnetic $F_\pi(Q^2)$ and transition $F_{\pi\gamma}(Q^2)$ form factors (FFs) within the light –cone sum rules method. Our aim is to compare the light –cone sum rules predictions for the electromagnetic and transition FFs with experimental data and to extract constraints on the parameters $b_2^0 \equiv b_2(Q^2 = 1Gev^2)$, $b_4^0 \equiv b_4(Q^2 = 1Gev^2)$ of the pion twist -2 (leading twist) DA $\varphi_\pi(u,Q^2)$,

$$\varphi_\pi(u,Q^2) = 6u\bar{u}\sum_{n=1}^{3} L_n(Q^2)(u\bar{u})^n \,. \tag{5}$$

The values obtained from the analysis of the pion electromagnetic FF are [2]:

$$b_2^0 = 0.2 \pm 0.03, \;\; b_4^0 = -0.03 \pm 0.06 \;\; . \tag{6}$$

From consideration of the transition FF we get [3]

$$b_2^0 = 0.27, \;\; b_4^0 = -0.3\,, \tag{7}$$

where the corresponding 1σ region of the parameters has a complicated form. This 1σ area overlaps with (6) in the region determined by the following values of the parameters

$$b_2^0 \cong 0.2 - 0.23, \;\; b_4^0 \cong -0.05 - (-0.09)\,. \tag{8}$$

Equation (8) is our estimate for the parameters in the pion twist -2 DA.

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SEARCH FOR TIME-REVERSAL VIOLATION IN KAON DECAYS

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I will report on experiments which have been performed at the Japanese National Laboratory KEK, Tsukuba, Japan, using stopped kaons from the 12 GeV synchrocyclotron.

The Standard Model (SM) of particle physics has been extremely successful in describing a broad range of phenomena, sometimes with extreme accuracy. However, we are not completely satisfied with the SM, for several reasons. And we are hoping to observe some "physics beyond the Standard Model".

An attractive possibility is to search for observables which are not present (or are negligibly small) in the SM. An example is the transverse polarization of the muon in the decays $K^+ \to \pi^0\mu^+\nu$ and $K^+ \to \gamma\mu^+\nu$, the first one being particularly attractive because it is practically exempt from final-state interaction. The experimental method and experimental set-up will be described and the upper limits obtained will be presented.