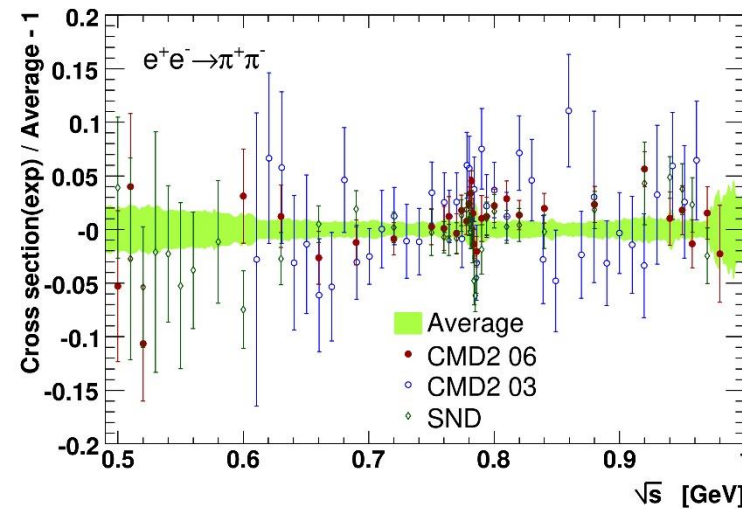
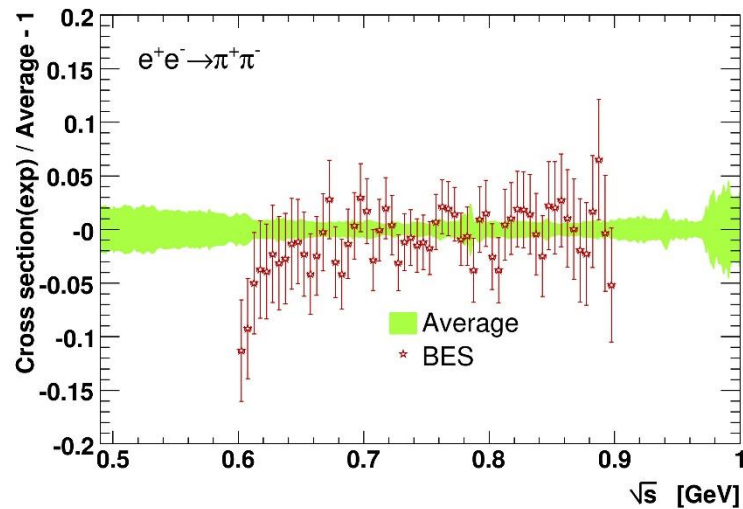
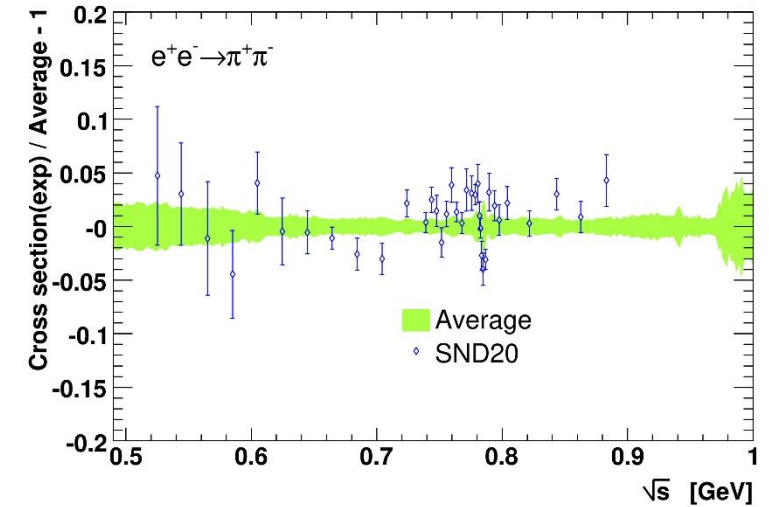
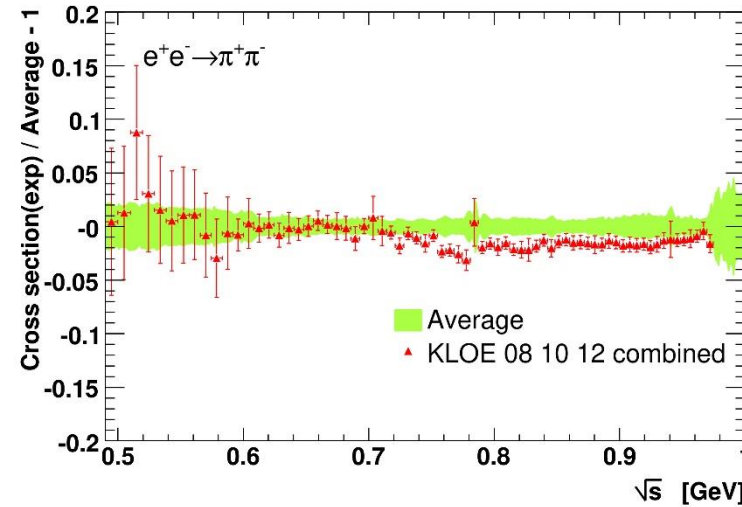
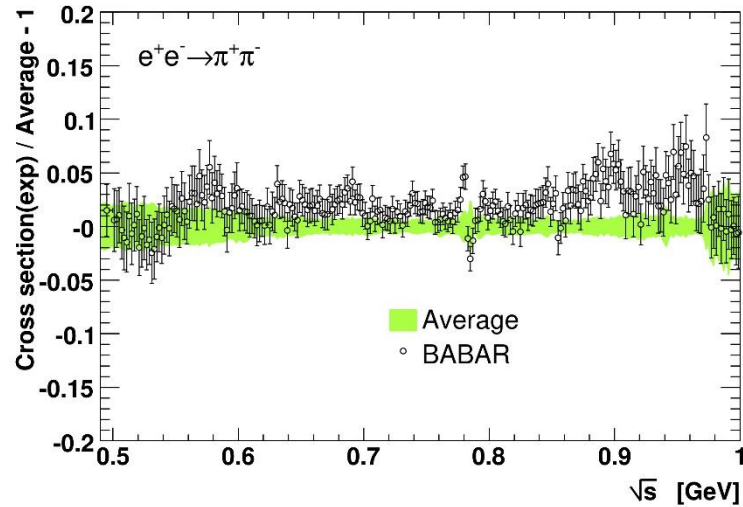


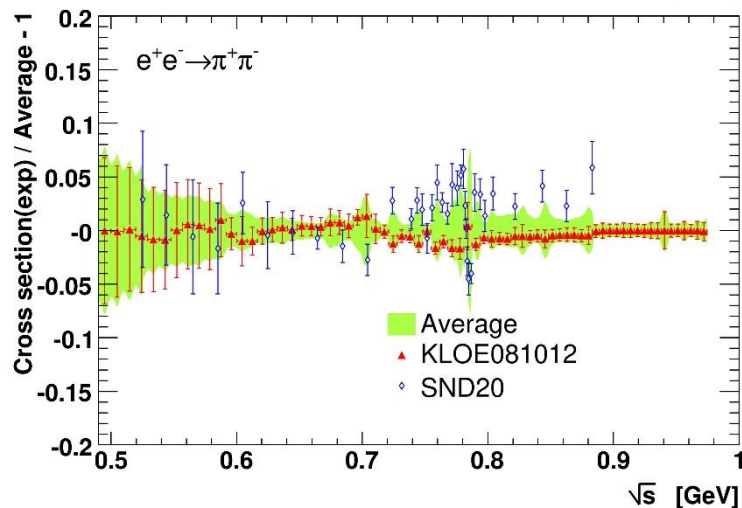
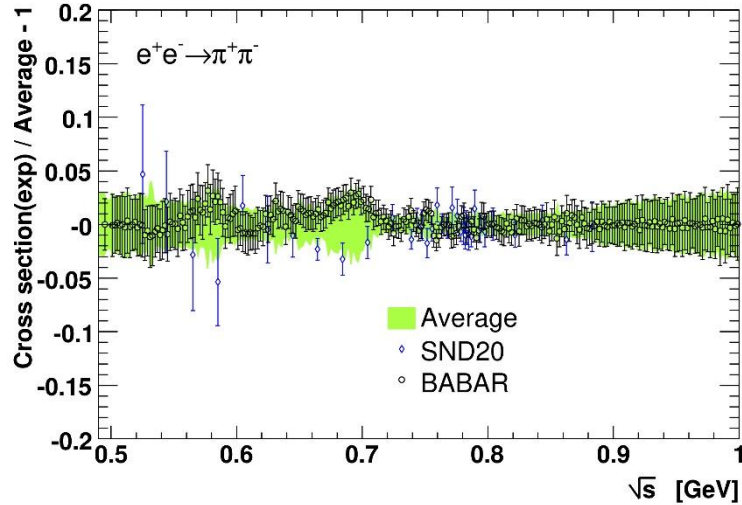
BABAR/KLOE discrepancy in $\pi\pi$ channel after SND20

- Only new data since DHMZ19/KNT19/WP20: cross sections ratio to new DHMZ combination including SND20
- **SND20 shows same trend/KLOE as BABAR > 0.7 GeV + small excess in BABAR/SND20 0.65 - 0.7 GeV**
- **Situation unchanged: need more precise data to confirm/dismiss present trend (CMD-3, BABAR, BES)**

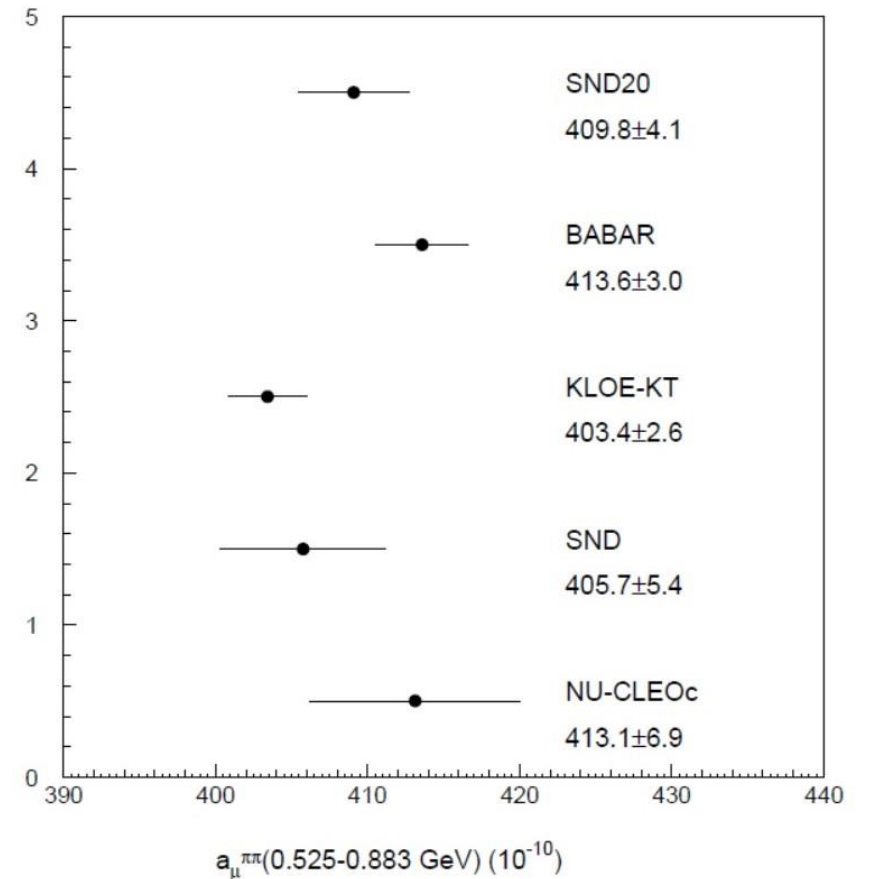


Further comparisons

- Computing average of SND20 with either BABAR or KLOE
- SND20 more consistent with BABAR



- Comparing $a_\mu [\pi^+\pi^-]$ integrals in ρ peak region
- Choose full range of SND20 [0.525-0.883] GeV to compare to other experiments covering this range



Role of BABAR/KLOE discrepancy in the WP-DISP/BMW20 difference

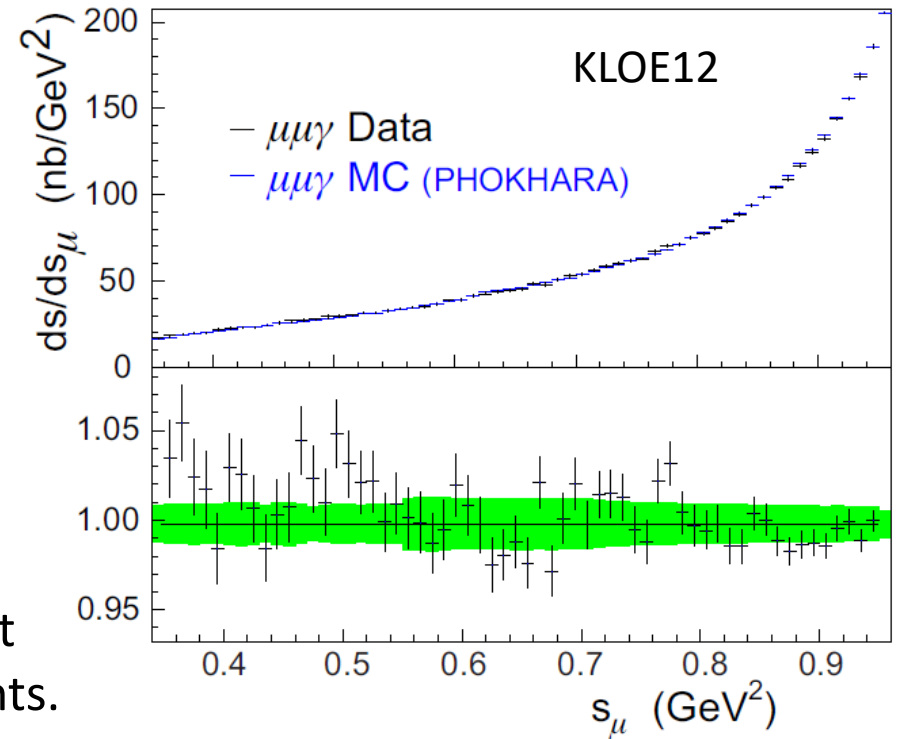
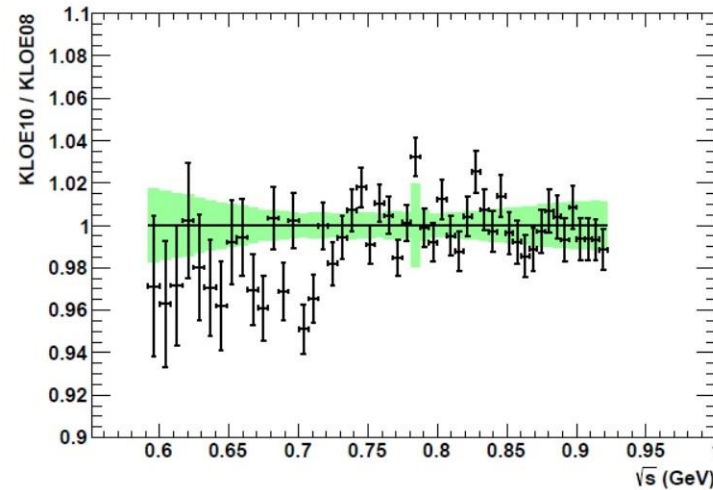
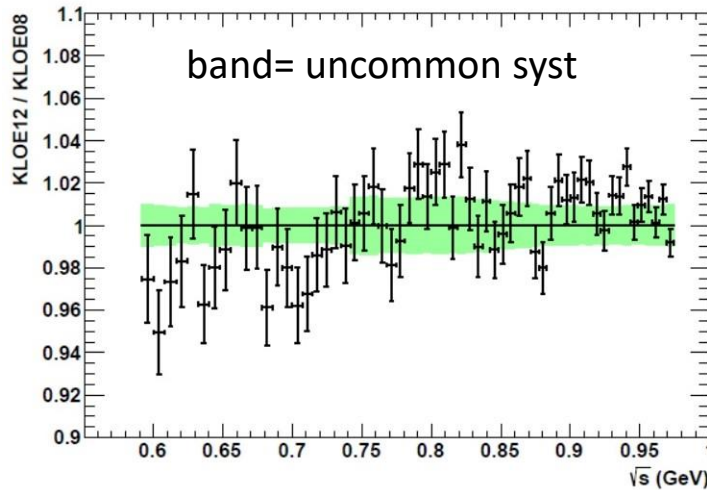
- Comparing $10^{10} \times a_{\mu}^{\text{LO had}}$ results:

BMW20	$707.5 \pm 2.3 \pm 5.0$ (5.5)	0.78%	--
DHMZ19 all	$694.0 \pm 1.0 \pm 2.5 \pm 0.7 \pm 2.8$ (4.0)	0.58%	2.0 σ
	stat syst QCD BABAR-KLOE		
DHMZ19 –KLOE	$696.8 \pm (3.1)$	0.44%	1.7 σ
DHMZ19 –BABAR	$691.2 \pm (3.1)$	0.44%	2.6 σ
WP20 all	$693.1 \pm 2.8 \pm 0.7 \pm 2.8$ (4.0)	0.58%	2.1 σ
(merging DHMZ-KNT-CHKS)	exp QCD BABAR-KLOE		

- BABAR/KLOE discrepancy results in a 30% loss in precision
- It accounts for 40% of the difference with BMW20

Can we do more to understand the BABAR/KLOE discrepancy?

- During the WP writing we had many exchanges with Graziano and Stefan, raising critical issues both ways
- Questions to BABAR (ISR luminosity average from $\mu\mu$ in 50 MeV mass bins, unfolding issues) answered
- Questions to KLOE (evidence of systematic effects between KLOE8/10/12, not taken into account in the combination; observed slope in $\mu\mu$ mass spectrum), shown at past workshops: feedback, but no action taken



- It is a pity that we were not able to make progress on this problem.
- Given the precision achieved (quoted) it will be difficult to wash out the discrepancy by just including new results from other experiments.
- **It is mandatory that all the new analyses be done with a demonstrably strict BLIND approach.**