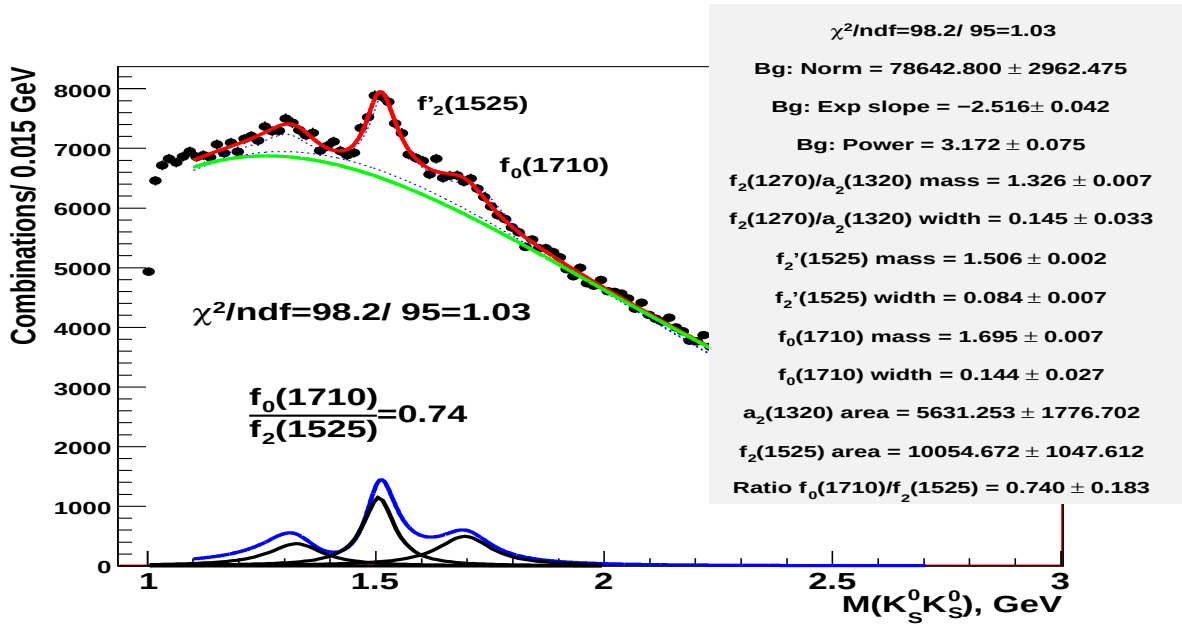
Recent suggestion from Harry Lipkin

- Treat $f_2(1270)$ and $a_2(1320)$ as a single resonance
- SU(3): Transition matrix elements are equal
  - Relative phase $= 0$
  - Coefficients should be equal
  - BR should be equal
  - What about SU(3) breaking (strangeness suppression) ?

Recent suggestion from Harry Lipkin

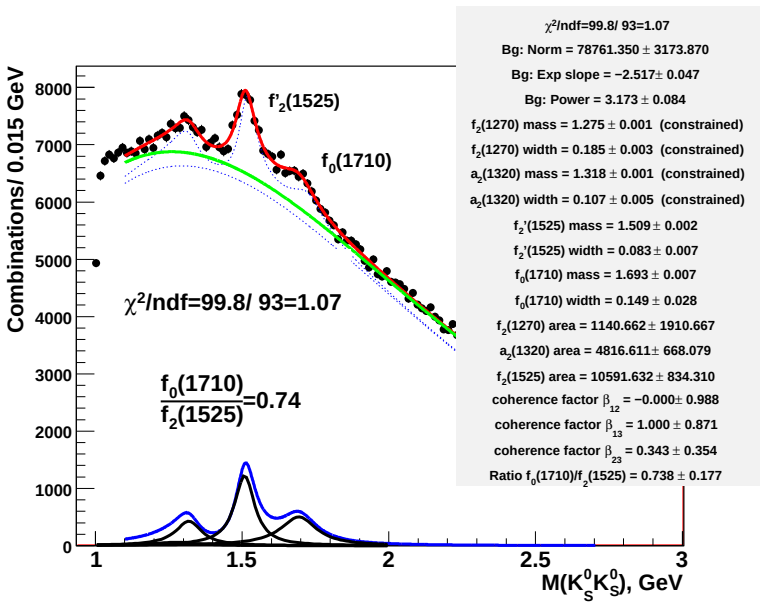
- $f = |\alpha_2 BW(f_2/a_2) + \alpha_3 BW(f_2')|^2$
- α_2, α_3 – free parameters

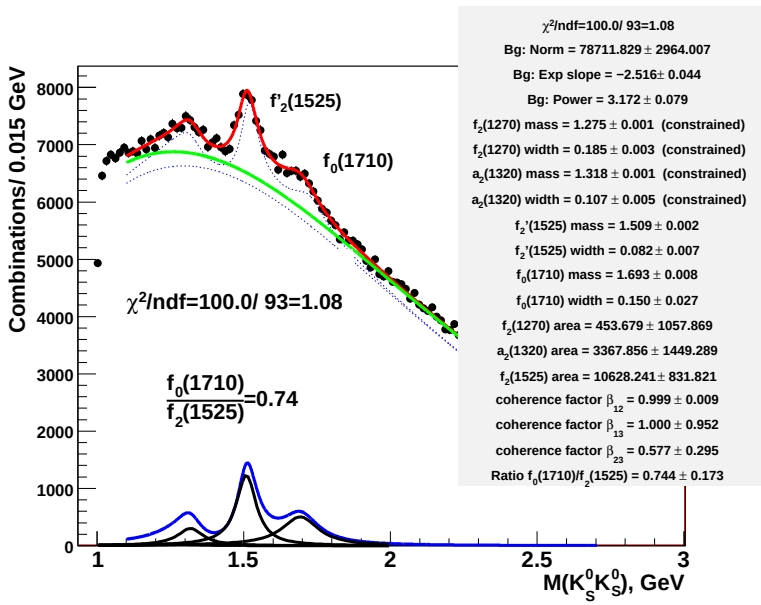


- Releasing relative phase gives value consistent with zero ($\delta_2 = 0.31 \pm 0.37$) and $\chi^2 = 97.6/94 = 1.04$ (Backup 2)
- Releasing coherence factor gives (unphysical) $\beta = 1.5 \pm 1.2$ (Backup 3)
- β should be < 1 if incoherent diagrams present

Achim's request

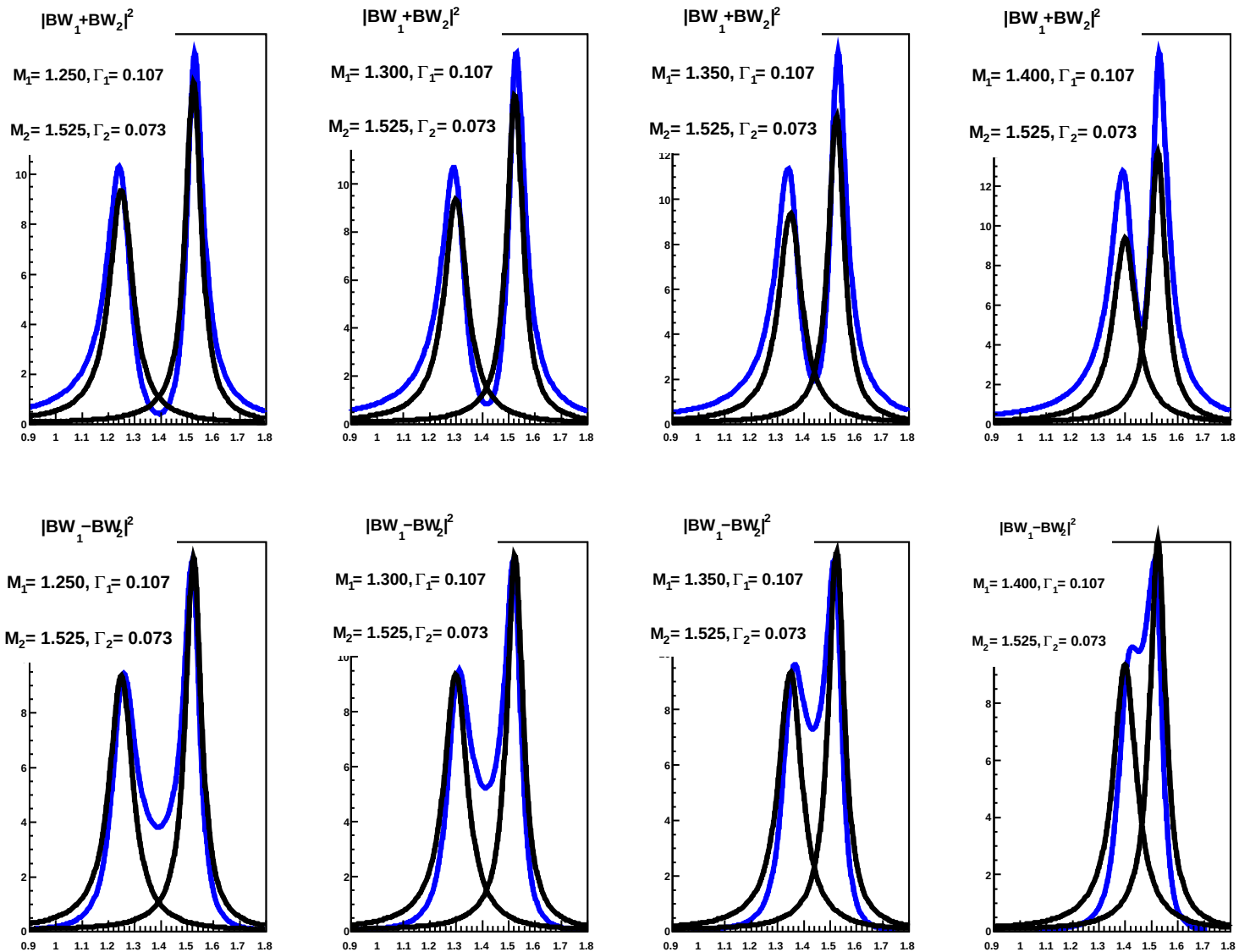
- Fit-IVa with $\delta_1 = \delta_2 = 0$ (in line with SU(3)) and
- β_{12}, β_{13}, β_{23} free (to allow incoherent diagrams)





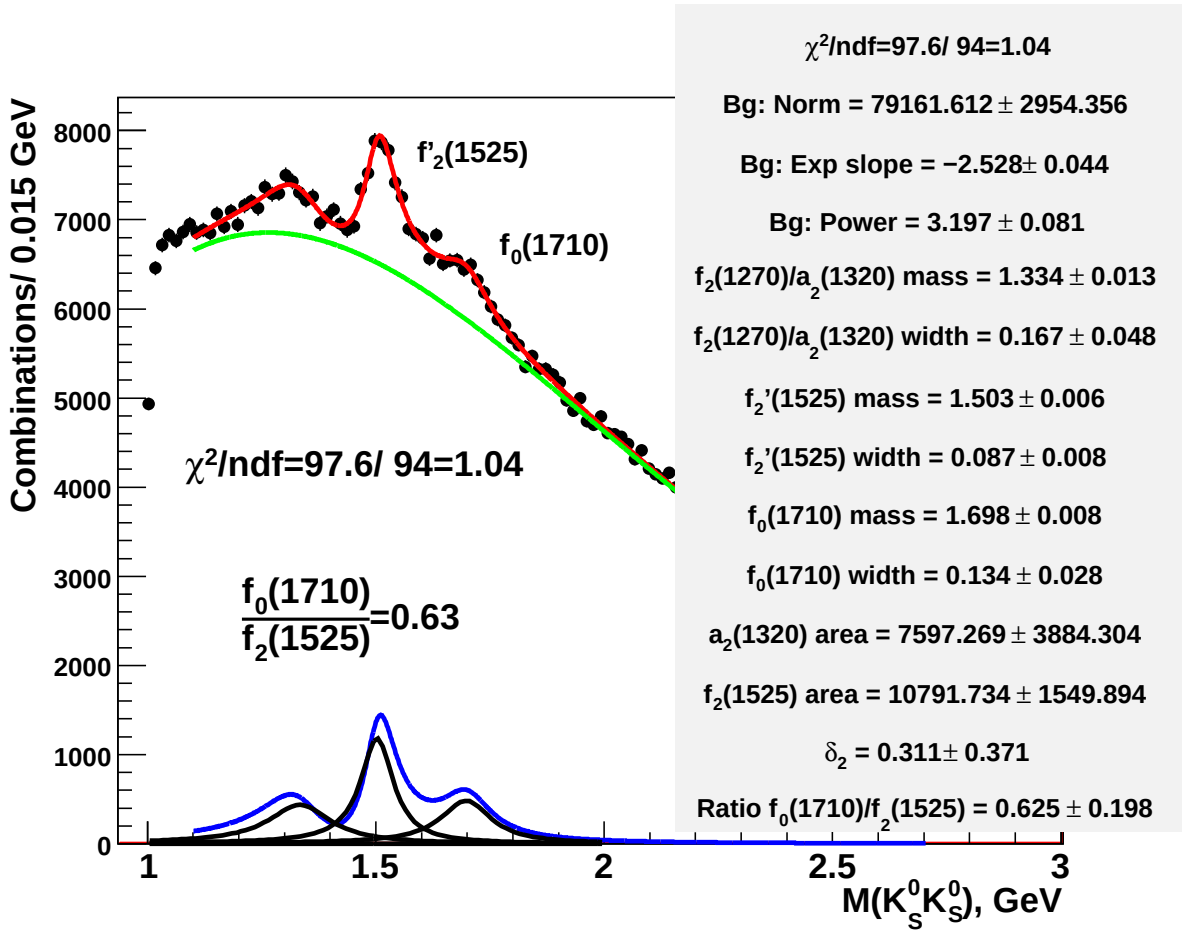
- Although relative a2/f2 is a bit ambiguous, f2' is stable
- Effectively similiar to degenerate a2/f2 model

Backup 1: Interference of two amplitudes



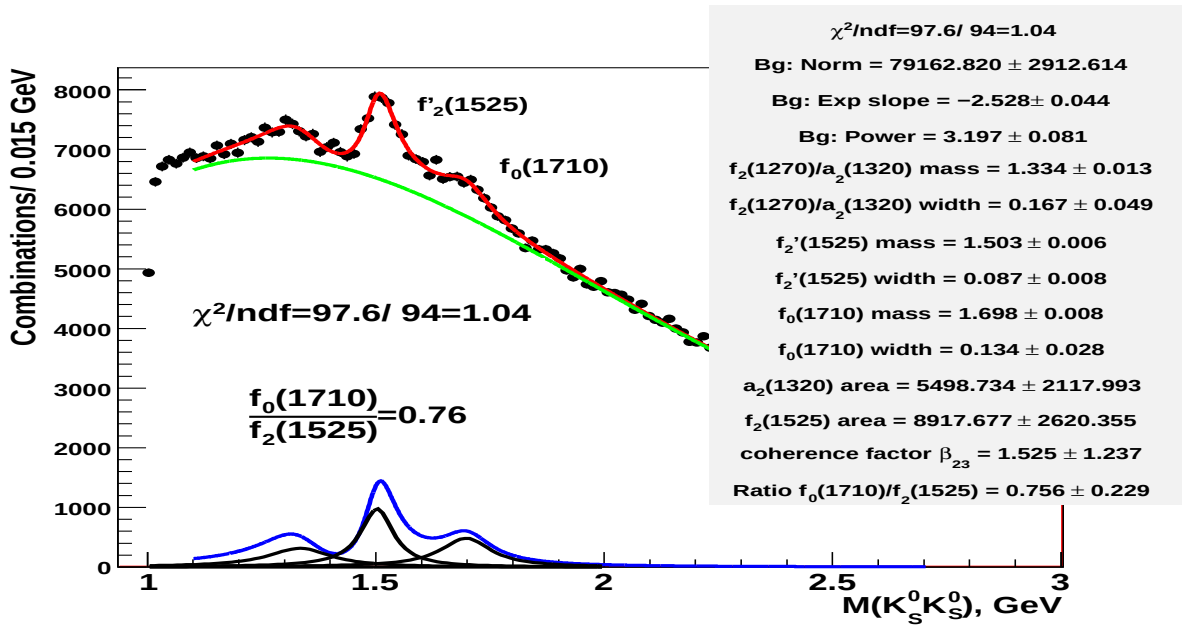
Backup 2. Degenerate f2/a2 (Lipkin)

- Release relative phase
- $f = |\alpha_2 e^{i\delta_2} BW(f_2/a_2) + \alpha_3 BW(f_2') |^2$



Backup 3. Degenerate f2/a2 (Lipkin)

- Release coherence factor (to take into account possible incoherent diagrams)



- Gives unphysical value (> 1). Error is large however.
- Expected to be < 1 if incoherent diagrams are at work
- Does this mean that we deal with coherent process ?

Backup 4: Achim's request

- $f_2(1270)$ is hardly visible in unzoomed plot because of larger width