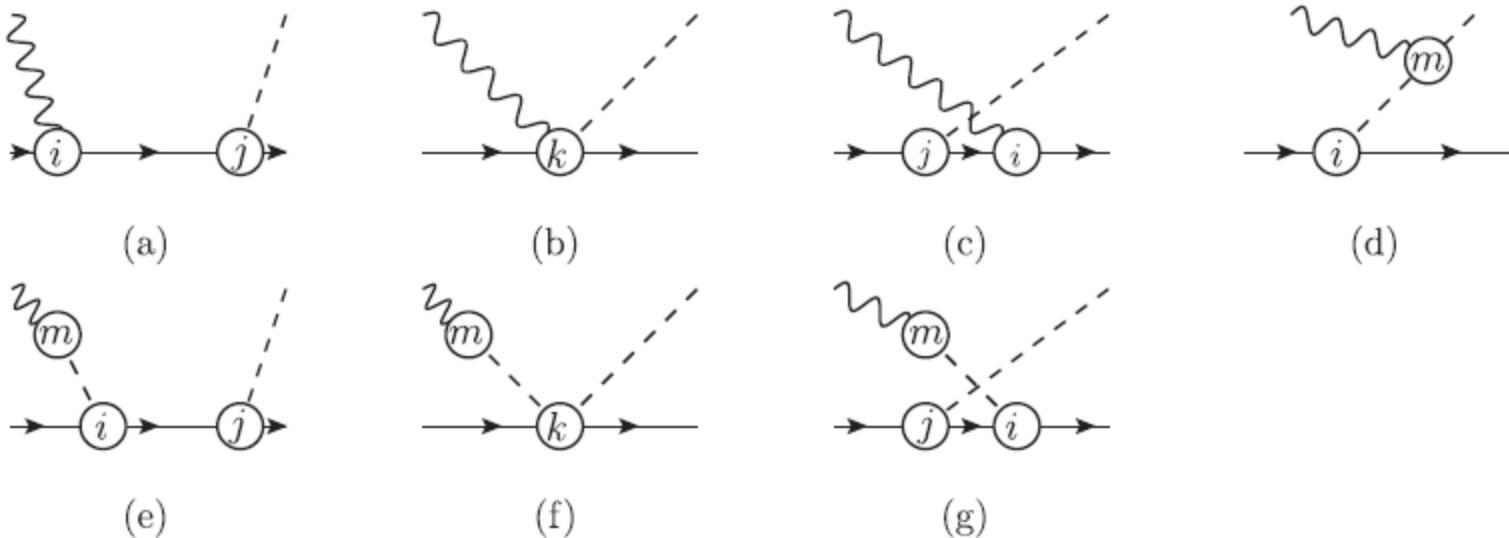


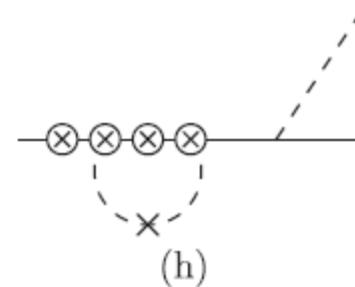
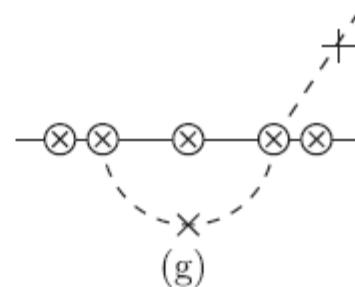
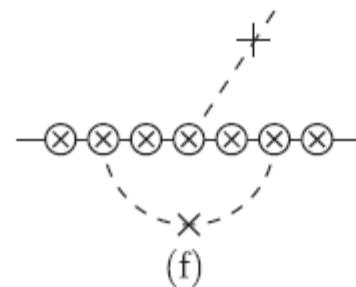
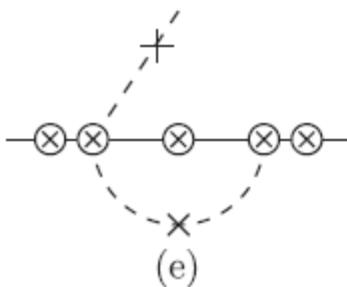
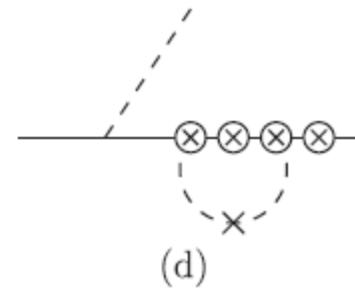
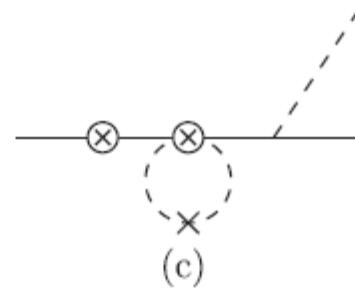
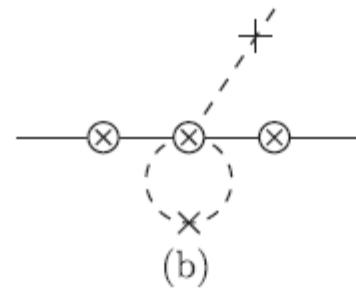
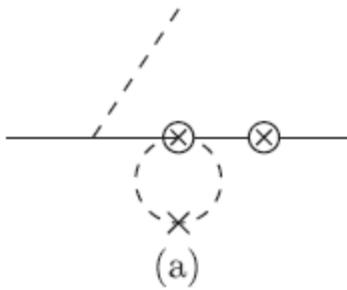
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- Yao et al., Phys.Rev. D98 (2018) 0760044
- First comprehensive study in ChPT
- EOMS
- Explicit $\Delta(1232)$
- $O(p^3)$
- $\delta = m_\Delta - m_N \sim O(p^{1/2})$
- Tree level:



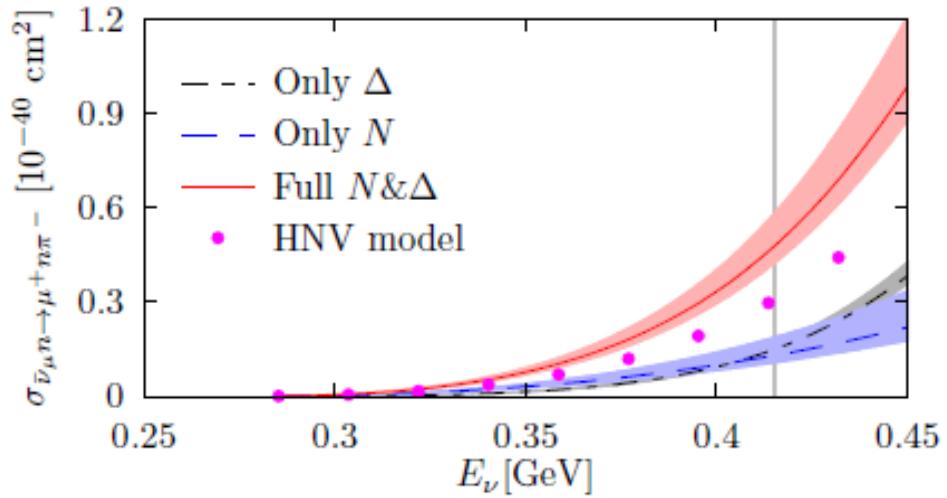
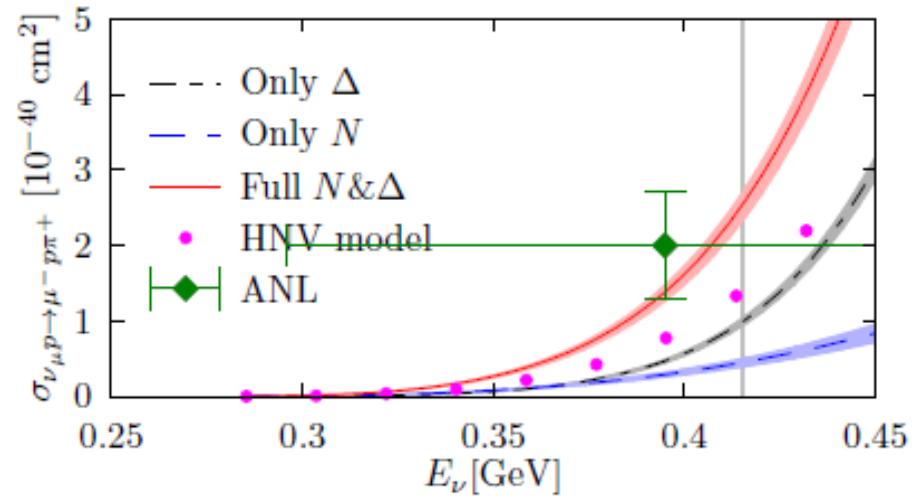
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- Some loop graphs:



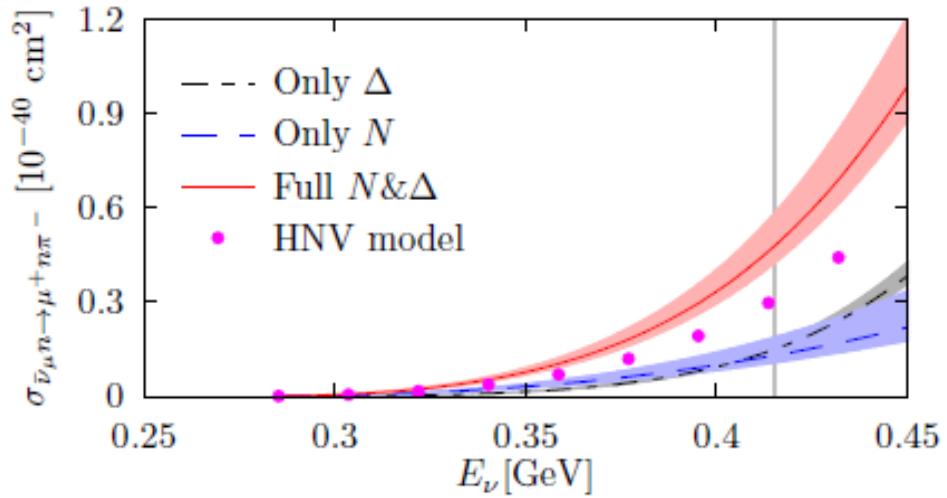
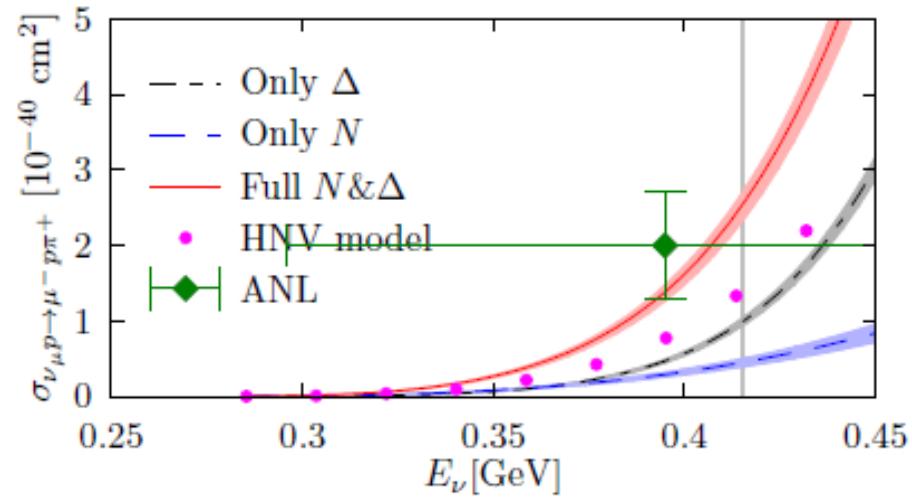
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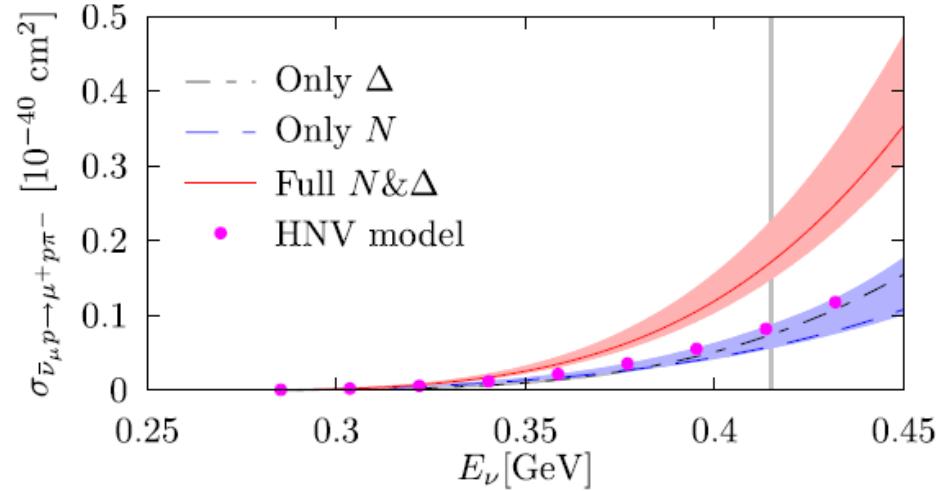
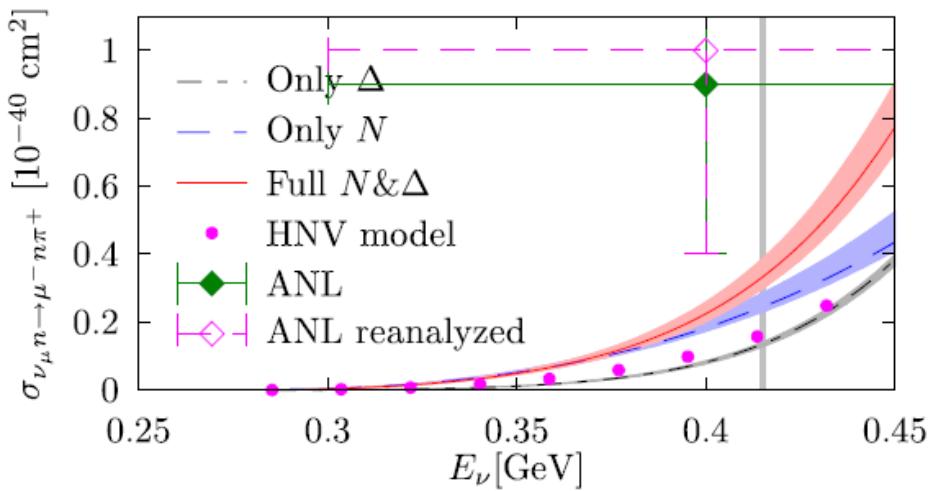
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- LECs :
 - 22 in total
 - 7 unknown (but not very relevant)
 - 4 of them can be extracted from pion electroproduction
 - information about remaining 3 LEC could be obtained from new close-to-threshold measurements of ν -induced π production on protons
- Extension to NC almost finished