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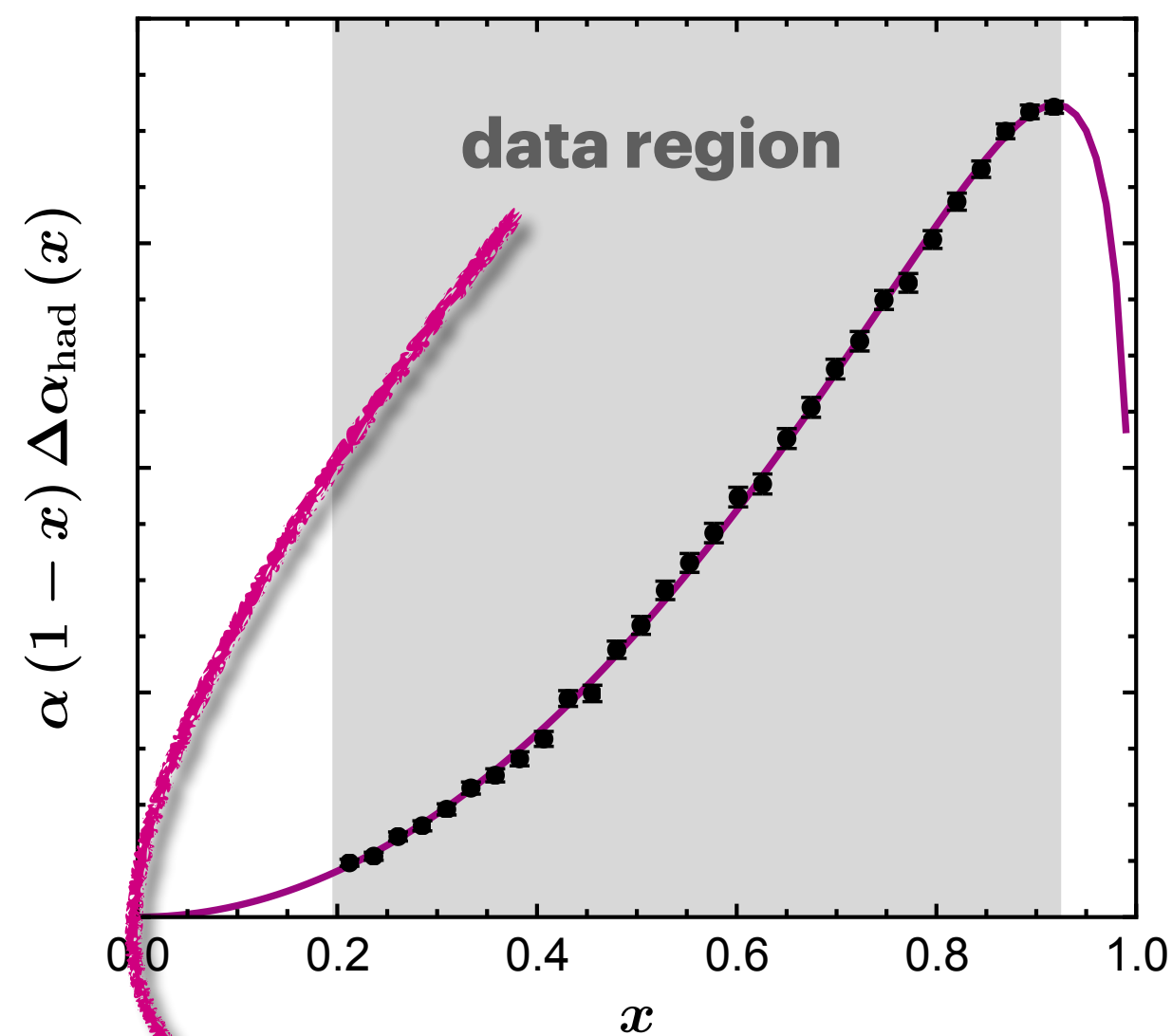
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The use of Padé and D-Logs Padé approximants in the MUonE experiment

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MUonE Experiment

New experiment to measure $a_\mu^{\text{HVP, LO}}$



! 86% of $a_\mu^{\text{HVP, LO}}$

$$a_\mu^{\text{HVP, LO}} = \frac{\alpha^2}{\pi} \int_0^1 dx (1-x) \Delta\alpha_{\text{had}}[t(x)]$$

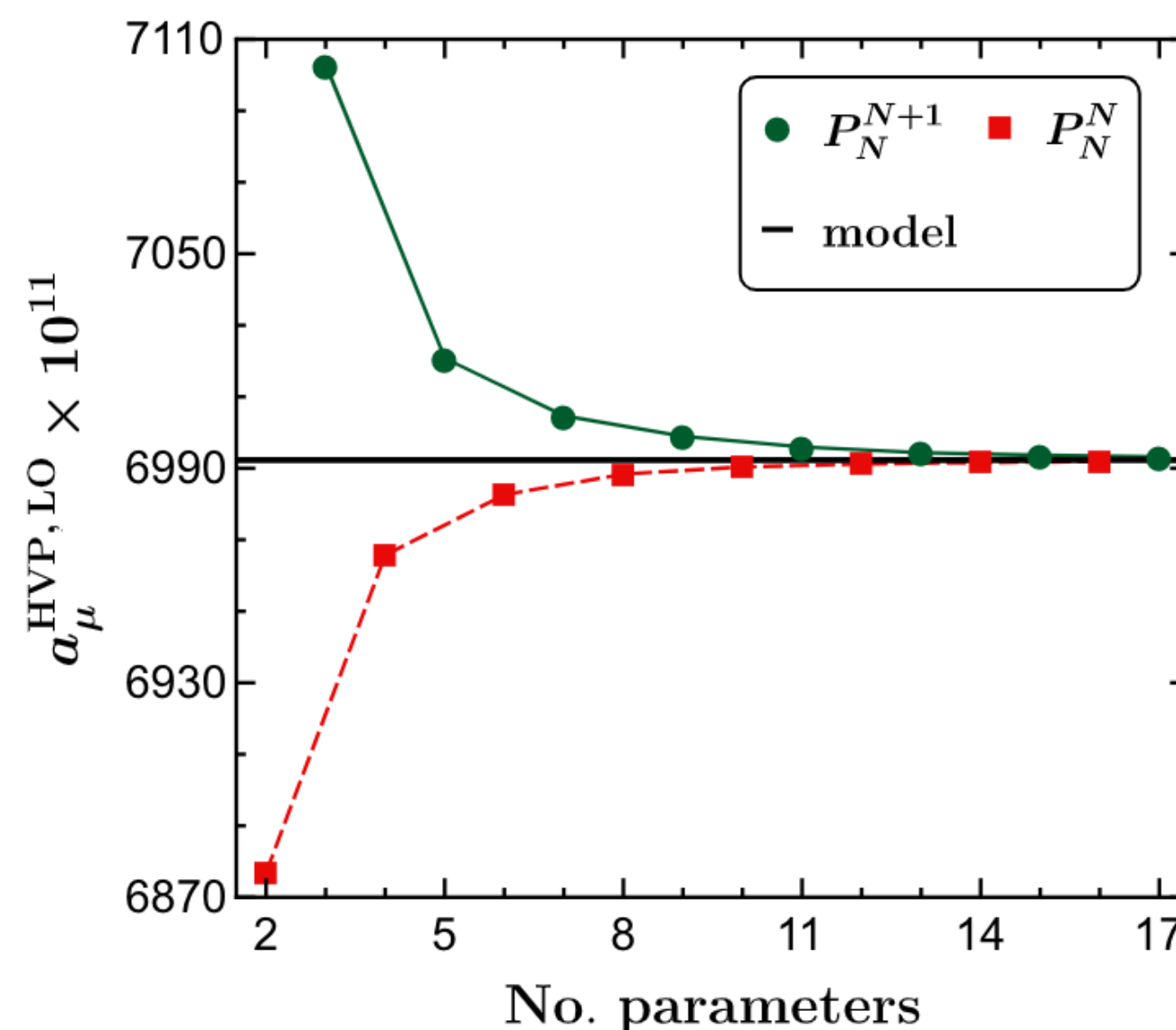
Stieltjes function

Stieltjes Functions

$$f(z) = \int_0^\infty \frac{d\phi(u)}{1+zu}$$

Convergence theorems are present

PA sequences act as bounds to the Stieltjes function



Padé Approximants

$$P_M^N(z) = \frac{Q_N(z)}{R_M(z)} = \frac{q_0 + q_1 z + \dots + q_N z^N}{1 + r_1 z + \dots + r_M z^M}$$



model-independent fit function

bound the true value

P_N^N : lower bound

P_N^{N+1} : upper bound

