MARCO DE MAPE

In Mario_ML_joint_HMC_maxlike

code joint_nonlinear_optimization
_weighted.mlx

starts from N=10 initial points
and for each does 1000 randomizations
of experimental PCs

Does platmatrix with optimization results

save param_freq_mat_weighted_join.mat

_contains param_freq_mat_weighted
(the entire matrix with parameters
sampled)

save param_frequentionist_optimization
_weight_joint.mat

param_freq_median_weight
param_freq_std_weight jun a patricaun
apostoant

joint optimisation (low + high p_t) ②

~~history~~ data:

code: Freq_optimization_joint_single_point.mlx
start from param_frequentionist optimized
weight_joint.mat

contraints: param_freq_median_weight

param_freq_std_weight

→ use this as intial point
for gradient descent

Do 10 000 PC_1 to PC_3 perturbations
within errors

Do corresponding fitting and plot matrix
save param_freq_mat_joint_sampled_param_freq_mat_jointysampled
save param_joint_sampled_moments.mat

contains: param_joint_sampled_median

param_joint_sampled_std

In the end checks agreement of
the predictions with the optimised
parameters by comparing just PC's

③ comparing-sampled-dist-beta.mlx

start from param-freq-meat_joint
-sampled

⇓

fit Beta distribution parameters

⇓

save prior-beta-parameters.mat

⇓

also displays fits of beta distribution
~~to~~ frequentionist sampled parameters

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④ HMC_optimization_lowpT- MaxLikeli

Takes initial point from
param_joint sampled moments.mat
input for comparison with frequentionist:
prior-beta-parameters.mat
Sample initial points ~~from~~ for 8 chains
from Beta distribution, for mean
centered at MAPS and with $\alpha = 15$
produced concatoneted Samples_MaxLike.mat
In the end compares the sampled distribu
with Beta distributions fitted to frequentist
inference.

reconstruct_joint_data.mlx
starts from HMC sampling in
load concatenatedSamples_Machine.mat

First reproduces experimental
and predicts PCs together with errors.
errors include variations in the
sampled parameters.

First do high p_T data

i) check actual and reconstructed
simulation predictions ⁻

ii) comparison between actual
experiments, model predictions
(corresponding to median of sampled
parameters) between experimental
iii) comparison between experimental
data, predictions corresponding
to range of sampled parameters
and predictions corresponding to the
initial (prior) range of parameters.
Then the same for low p_T data