

## Fits of Colin's data

These notes describe fitting Colin's data following Anatoly's suggestion. I begin by fitting each  $z$  independently to a simple functional form

$$\mathfrak{M} = \int_0^1 \cos(\nu x) \frac{x^\alpha (1-x)^3}{B(\alpha+1, 4)} dx, \quad (1)$$

which is related to the hypergeometric function.

Figs. 1 and 2 show the results of the fit for  $z = 1 - 6$  and  $z = 7 - 12$  respectively. The title gives the  $\chi^2/\text{dof}$  and its error. The lowest  $z$  tend to have a noticeably larger  $\chi^2$  compared to the rest, which is slightly worrisome. Fig. 3 shows the results for  $\alpha$ . It exhibits the linear behavior that Anatoly sees.

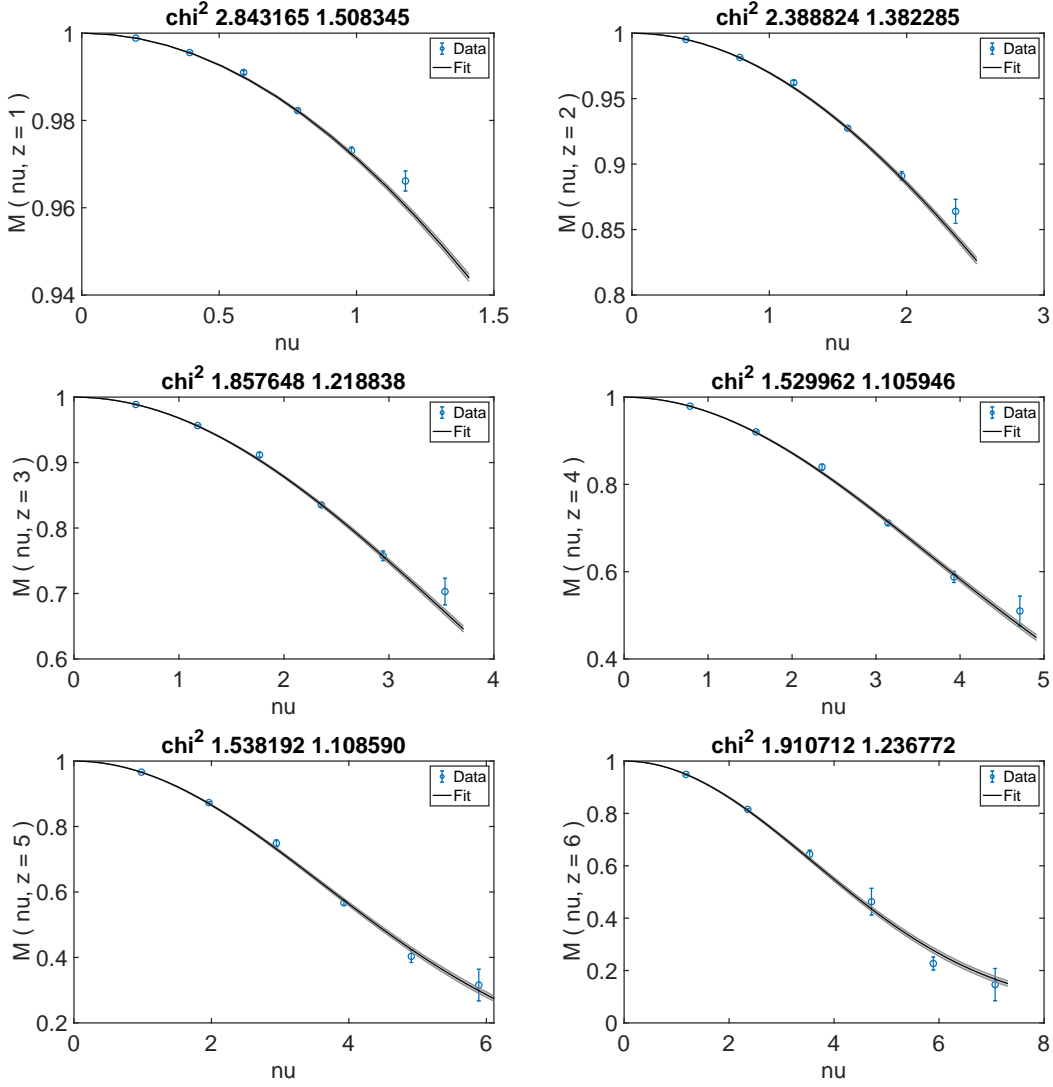


FIG. 1: The fits to  $z = 1 - 6$ . The title says the  $\chi^2/\text{dof}$  and its error.

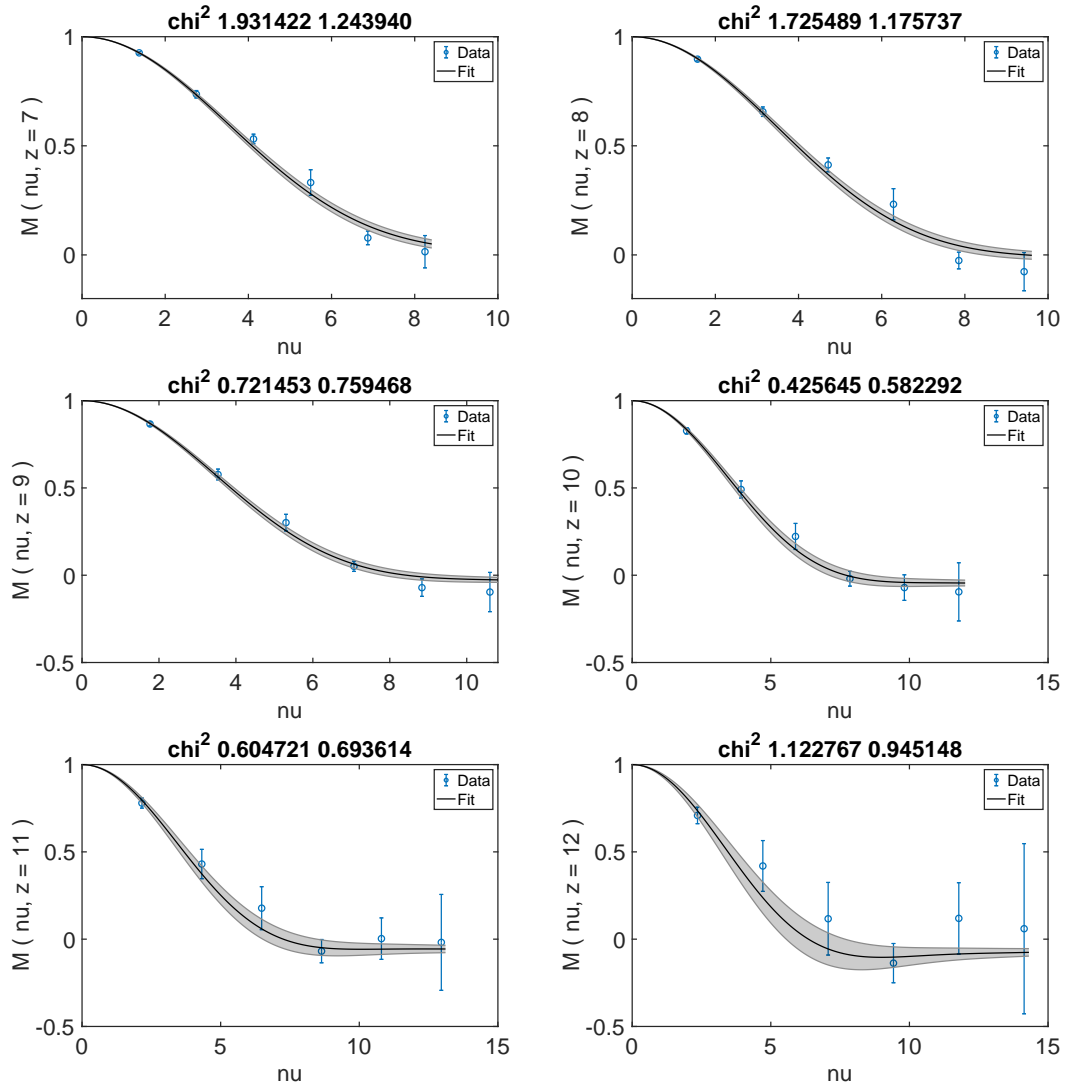


FIG. 2: The fits to  $z = 7 - 12$ . The title says the  $\chi^2/\text{dof}$  and its error.

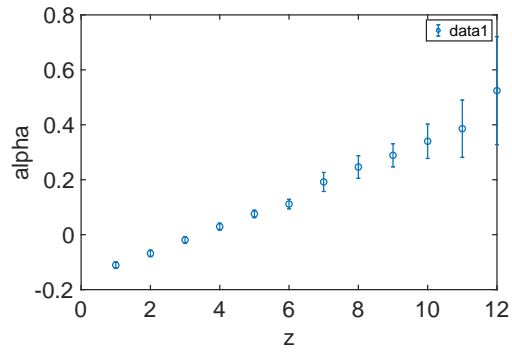


FIG. 3: The fit result for  $\alpha$  as a function of  $z$