160 Harghe Road Dar Gest.

When a seein of observations from home and to fit. Dear Fisher, funti 4 less squares ne often vara my test of independence of de euros. a genetuetur mes le construé paris emelation via conflications. But if a set ferros are truly render, fersitions of clays of angin are expressed likely, and we can get a roop tast by containing dais actual numbers with an ever above. hadar of Lucies one of the factions pitted (y = E da filt) wil de a gistele) is a constant we automatively it here we ale for de effort of fing de picing. Inthem any grand? I have a feeler by a now who has place . let of now places of Erns over 20 years & reestated orbital elevents & nesses of the wines planets from them. He has pitted 16 parameters; tis residuels is night assessin show 17 personales + 17 chays of erfo, in decliration 19 ferritures & Malayer. I dick that will the number of parameters fitted there aget to be adminded excess of changes if de errors were randon.

Do you how anything to de point?

yoursonered Have John C 616. Doc. it sent advended gig.

Dear Fisher,

When a series of observations (ordered with respect to time,) have been used to fit a function by least squares we often want a rough test of independence of the errors.

A general treatment would be a matter of serial correlation with complications. But if a set of errors are truly random, persistences and changes of sign are equally likely, and we can get a rough test by comparing their actual numbers with an even chance.

If however, one of the functions fitted $(y = \xi \lambda_m f_m(t))$ with λ_m adjustable) is a constant, we automatically introduce one change of sign at least by the fitting. Is there any general rule for the effect of fitting λ 's for a lot of different f_m at once?

I have a paper by a man who has fitted a lot of mean places of E mos over 20 years or so and reestimated orbital elements and masses of the inner planets from them. He has fitted 16 parameters; his residuals in right ascension show 17 persistences and 17 changes of sign, in declination 19 persistences and 17 changes. I think that with the number of parameters fitted there ought to be a decided excess of changes if the errors were random.

Do you know anything to the point?
Yours sincerely,

sgnd. Harold Jeffreys.