THE R FUNCTION *lm* ()

Meets most of the preceding needs

- "linear model" – linear in the coefficients. These are OK:
  $(V = A + Bx^3 + C\ln(x) + D\sin y + E\,f(x,y,z)$
- R call: F <- *lm*
  (V~I(x^3)+I(ln(x))+sin(y)+I(f(x,y,z))+exp(x))
- not linear: $V = a\exp(bx)$ – but $v' = \ln V = a' + bx$ is linear
- If you use lm (V~A*B) this will be interpreted as
  V~A+B+AB so use I( ), even for x^2: I(x^2)

Simple example:

Fitting to a speed run to find $\alpha = c_0 + c_1$(ADIFR/QCF)

Method: $\alpha_{Ref} = \theta - w_p/V \sim$ I(ADIFR/QCF)

comment re terminology

you fit an equation to data (not fit data)