Resolve monthly mean data into components

Example: climatological surface air temperature

Ψ₀ = global mean, annual mean (“bias”) \rightarrow 288 K

Ψ₁ (\phi) = zonal mean, annual mean

Ψ₂ (\lambda, \phi) = annual mean deviations from the zonal mean

Ψ₃ (\phi, \tau) = annual cycle of the zonal mean

Ψ₄ (\lambda, \phi, \tau) = annual cycle of deviations from the zonal mean

January    July    December