smprob10(14).tex

SMF PROBLEMS 10. 19.12.2014

Q1 (Conditioning for the multinormal).

State Edgeworth's theorem for the density of the multinormal law $N(\mu, \Sigma)$, in terms of the concentration matrix $K := \Sigma^{-1}$.

Given the formula for the inverse of a partitioned matrix (Problems 9 Q2):

(i) If a multinormal vector x is partitioned into x_1 and x_2 , with μ , Σ , K partitioned accordingly, derive the conditional distribution of x_1 given x_2 in terms of μ , K.

(ii) Give the same result in terms of μ and Σ .

NHB