

Lemma 11.18 Let $(\mathbf{X}', \mathbf{Y}')$ be n i.i.d. copies of a pair of generic random variables (X', Y') , where X' and Y' are independent and have the same marginal distributions as X and Y , respectively. Then

$$\Pr\{(\mathbf{X}', \mathbf{Y}') \in \Psi_{[XY]\delta}^n\} \leq 2^{-n(I(X;Y) - \delta)}.$$