SHEET 2

EXERCISE 1

Let $(\alpha_S)_{S \subset \Lambda}$ such that $\forall S$ $\alpha_S \geq 0$

Prove that $\langle \sigma_A \exp\left(\sum_S \alpha_S \sigma_S\right) \rangle^+ \geq \langle \sigma_A \rangle^+ \langle \exp\left(\sum_S \alpha_S \sigma_S\right) \rangle^+$.

Exercise 2.

Let $A \subset S \subset \Lambda$. Define $J_{xy}^{(\lambda)} = \begin{cases} J_{xy} & \text{if } x \in S \text{ or } y \in S \\ \lambda & \text{otherwise} \end{cases}$

Prove that $\lim_{\lambda \to \infty} \langle \sigma_A \rangle^+_{J^{(\lambda)}, \Lambda} = \langle \sigma_A \rangle^+_{J, S}$

Deduce that $\langle \sigma_A \rangle^+_{J, \Lambda} \leq \langle \sigma_A \rangle^+_{J, S}$.