02.07.2013

Seminar 8

(S8.1)

(i) $\mathcal{S} = \mathcal{C} \cup \{\emptyset\}$ is a semialgebra on $W^{\mathbb{Z}}$.

(ii) $\mathcal{B} = \sigma(\mathcal{S}) = \sigma(\mathcal{C}_e)$.

(iii) $\mathcal{B}$ coincides with the Borel σ-algebra on $W^{\mathbb{Z}}$.

(S8.2) Let $A \in \mathcal{B}$.

(i) $A \setminus A_{ret}$ is wandering.

(ii) $A \setminus A_{inf} = A \cap \bigcup_{n \geq 0} T^{-n}(A \setminus A_{ret})$.

(S8.3) Let $(X, \mathcal{B}, \mu, T)$ be a MPS. If $A \in \mathcal{B}$ is such that $\mu(A) > 0$, then there exists $1 \leq N \leq \Phi$ such that
$$\mu(A \cap T^{-N}(A)) > 0,$$
where $\Phi = \left\lceil \dfrac{1}{\mu(A)} \right\rceil$.