ON n-SATURATED CLOSED GRAPHS

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Geschke proved that there is clopen graph on 2^ω which is 3-saturated, but the clopen graphs on 2^ω do not even have infinite subgraphs that are 4-saturated; however there is F_σ graph that is ω_1-saturated. It turns out that there is no closed graph on 2^ω which is ω-saturated. We complete this picture by proving that for every $n \in \mathbb{N}$ there is an n-saturated closed graph on the Cantor space 2^ω. The key lemma is based on probabilistic argument. The final construction is an inverse limit of finite graphs. This is a joint work with Przemysław Gordinowicz: https://arxiv.org/abs/2201.10932

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