1154-03-897 **Ioannis Souldatos***, souldaio@udmercy.edu. *Local Hanf Numbers, Kurepa Trees, and Limit Characterizable Cardinals.*

About 30 years ago, Shelah conjectured that if $\aleph_{\omega_1} < 2^{\aleph_0}$, then any $\mathcal{L}_{\omega_1,\omega}$-sentence with models of size $\aleph_{\omega_1}$ also has models of size $2^{\aleph_0}$. He called $\aleph_{\omega_1}$ the *local Hanf number* below $2^{\aleph_0}$.

His conjecture is equivalent to the statement "If $\aleph_{\omega_1} \leq \kappa < 2^{\aleph_0}$, then no $\mathcal{L}_{\omega_1,\omega}$-sentence can have model-extistence spectrum $[\aleph_0, \kappa]$ or $[\aleph_0, \kappa)$".

Call κ a *characterizable* cardinal, if there exists an $\mathcal{L}_{\omega_1,\omega}$-sentences with spectrum $[\aleph_0, \kappa]$, and *limit characterizable* cardinal, if κ is a limit cardinal and there exists an $\mathcal{L}_{\omega_1,\omega}$-sentences with spectrum $[\aleph_0, \kappa)$. Although characterizable cardinals has been studied before, very little is known for limit characterizable cardinals.

In the lecture we will present some recent results about limit characterizable cardinals and their connection with the local Hanf numbers below $2^{\aleph_1}$ and $2^{2^{\aleph_0}}$. (Received September 11, 2019)