1124-54-366 **Peter Nyikos J. Nyikos*** (nyikos@math.sc.edu), Department of Mathematics, University of South Carolina, Columbia, SC 29208. *Locally compact spaces: ω_1-compactness vs. σ-countable compactness.* Preliminary report.

A *space of countable extent*, also called an ω_1*-compact space*, is one in which every closed discrete subspace is countable. Obviously, every σ*-countably compact space* [i.e., the union of countably many countably compact spaces] is ω_1-compact. The addition of local compactness makes the converse sensitive to set-theoretic independence results. For example:

Theorem 1 [Lyubomir Zdomskyy]. If P-Ideal Dichotomy (PID) holds and $\mathfrak{p} > \aleph_1$, then every locally compact, ω_1-compact space of cardinality $\aleph_1$ is σ-countably compact.

Theroem 2. In MM(S)[S] models, every locally compact, hereditarily normal, ω_1-compact space is σ-countably compact.

If we replace "hereditarily normal" by the stronger "monotonically normal" in this theorem, then we only need the consequence PID of MM(S)[S]. But this is still only a consistency result:

Theorem 3. If $\clubsuit$, there is a monotonically normal, locally compact, locally countable (hence first countable, and scattered) ω_1-compact space of cardinality $\aleph_1$ which is not σ-countably compact.

(Received September 13, 2016)