

$\mathcal{N}55$: Keremedis/Tachtsis Model: The set of atoms $A = \bigcup\{A_n : n \in \omega\}$, where $A_n = \{a_{n,x} : x \in B(0, \frac{1}{n})\}$ and $B(0, \frac{1}{n}) = \{x : \rho(x, 0) = \frac{1}{n}\}$, where ρ is the Euclidean metric. The group of permutations \mathcal{G} , is the group of all rotations of the A_n through an angle $\theta \in [0, 2\pi)$, and supports are finite. It is shown in Keremedis/Tachtsis [1999b] that form 9 (Finite \Leftrightarrow Dedekind finite) is true in this model, but forms 131 ($MC_\omega(\aleph_0, \infty)$), 154 (Tychonoff's Compactness Theorem for Countably Many T_2 Spaces), 165 ($C(WO, WO)$), and 343 (A product of non-empty, compact T_2 topological spaces is non-empty.) are false. It is shown in Keremedis/Tachtsis [1999a] that 116 (Compact T_2 spaces are weakly Loeb.) is also false.

$\mathcal{N}55 \models 9$ but, 116, 131, 154, 165, and 343 are false. References Keremedis/Tachtsis [1999a] and [1999b].

(A minimal list of forms implying each form known to be true in the model: 9.

A minimal list of forms at least one of which is implied by each form known to be false in the model: 116, 131, 154, 165, 343.

A list of all forms known to be true in the model: 0, 9, 10, 11, 12, 13, 17, 18, 57, 64, 73, 80, 82, 83, 84, 98, 124, 127, 128, 132, 185, 198, 199, 216, 217, 249, 288, 296, 304, 325, 336, 342, 358, 373, 374, 376, 377, 378, (383).

A list of all forms known to be false in the model: 1, 8, 14, 20, 36, 39, 40, 43, 44, 50, 60, 66, 67, 76, 86, 87, 95, 100, 101, 106, 109, 113, 116, 123, 126, 131, 133, 149, 154, 165, 168, 174, 181, 188, 192, 193, 202, 214, 218, 231, 255, 256, 257, 258, 259, 260, 261, 262, 264, 286, 303, 317, 328, 331, 332, 333, 334, 335, 343, 345, 347, 359, (383).