CHAIN CONDITIONS, LAYERED PARTIAL ORDERS AND WEAK COMPACTNESS

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ABSTRACT. Motivated by a conjecture of Todorčević, we study strengthenings of the κ-chain conditions that are equivalent to the κ-chain condition in the case where κ is a weakly compact cardinal. We then use such properties to provide new characterizations of weakly compact cardinals. In addition, we show that the question whether weak compactness is characterized by the statement that all κ-Knaster posets satisfy these properties is independent from the axioms of ZFC. This is joint work with Sean D. Cox (VCU Richmond).

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