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Homogeneous ultrametric structures

Joint work with Wiesław Kubiś and Maja Pech

For any age $\mathcal{C}$ the class $\sigma\mathcal{C}$ of countable structures younger than $\mathcal{C}$ may be obtained by closing $\mathcal{C}$ for certain direct limits of ω-chains of structures from $\mathcal{C}$.

During this talk we will shed some light on the constructive power of the dual of this construction—projective limits of ω-cochains of structures. We show limits of ω-chains give rise to certain metric structures. The class of metric structures obtainable in this way from a given class $\mathcal{C}$ of structures is denoted by $\pi\mathcal{C}$.

We characterize for every age $\mathcal{C}$, when the class $\pi\sigma\mathcal{C}$ contains a universal homogeneous metric structure. Here a metric structure is called homogeneous if every metric isomorphism between compactly generated substructures is extendable to a metric automorphism of the metric structure in question.