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On the Zariski Closure

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The Zariski closure operator is naturally defined in any category of "affine spaces" modelled over an algebra A. (See [1] and [2].)

In this talk we look at the algebras on $A = \{0, 1\}$ having arbitrary joins and α-meets (α a regular cardinal) and the topological spaces $\mathbf{Alex}(\alpha)$ that they model. Using the Zariski closure we investigate separated objects, completion constructions and compactness properties in $\mathbf{Alex}(\alpha)$. In this way a simple generalization gives rise to a wealth of interesting examples.

References

[1] Y. Diers, *Affine algebraic sets relative to an algebraic theory,* Journal of Geometry, **65** (1999), 329-341.

[2] E. Giuli, *Zariski closure, completeness and compactness,* CatMAT 2000 Proceedings:Mathematik-Arbeitspapiere, Universität Bremen, **54** (2000), 207–216.