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Internal choice holds in the discrete part of any cohesive topos satisfying stable connected codiscreteness. (English summary)

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In [*Theory Appl. Categ.* **19** (2007), No. 3, 41–49; [MR2369017](#)], the first author proposed to axiomatize the contrast between cohesion and non-cohesion. The contrast can be represented mathematically by a geometric morphism $p: \mathcal{E} \rightarrow \mathcal{S}$ between topoi. This paper shows that mild conditions on p imply that \mathcal{S} abides by the internal axiom of choice. It is also shown that \mathcal{S} may be identified with the topos $\mathcal{E}_{\perp\perp}$ of sheaves for the double negation topology. The authors suggest that “a next step would be to address the Generalized Continuum Hypothesis”.

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Note: This list reflects references listed in the original paper as accurately as possible with no attempt to correct errors.