Theorem: Every Grothendieck topos admits a hyperconnected geometric morphism from an étendue of discrete G-sheaves.

Corollary: Every Grothendieck topos admits an open surjection from a localic topos.

These results are obtained from Freyd’s representation theorem: Every Grothendieck topos admits a connected atomic geometric morphism from a topos localic over a topos of continuous G-sets, G being a topological group.

Reviewer: H. Engenes

MSC:
18B25  Topoi
18F20  Presheaves and sheaves, stacks, descent conditions (category-theoretic aspects)

Keywords:
locale; hyperconnected; Grothendieck topos; étendue; sheaves; localic topos; geometric morphism

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