

$\forall i \in n: z_i \not\asymp a_i$ (taken in account that $a_i \neq 0$) and $\exists i \in n: z_i \asymp b_i$.

So there exists z such that $z \in \prod^{\text{FCD}} a$ and $z \notin \prod^{\text{FCD}} b$.

$\prod^{\text{FCD}} a \not\subseteq \prod^{\text{FCD}} b$. □

Corollary 48. \prod^{FCD} is an order-preserving quasi-cartesian function from the (defined in an obvious way) quasi-cartesian situation of separable posets with least elements to the (defined in an obvious way) quasi-cartesian situation of multifunctors. *[TODO: Write the definitions explicitly.]*

Theorem 49. Cross-composition product (for small indexed families of pointfree functors between separable atomic posets with least elements and atomistic posets) is an order-preserving quasi-cartesian function from the quasi-cartesian situation \mathfrak{S}_0 of pointfree functors over posets with least elements to the quasi-cartesian situation \mathfrak{S}_1 of pointfree functors over posets with least elements.

Proof. It follows from the formula (2). *[TODO: More detailed proof.]* □

[TODO: Ordinated product is a quasi-cartesian function with injective aggregation.]

[TODO: Reloidal product is an order-preserving quasi-cartesian function.]

[TODO: Upgrading/downgrading quasi-cartesian functions? This is related with displaced product. First prove that upgrading is injective and that injection composed with a quasi-cartesian function is quasi-cartesian.]