

21.21.1. On finite unions of infinite Cartesian products. Let \mathfrak{A} be an indexed family of sets.

Products are $\prod A$ for $A \in \prod \mathfrak{A}$.

Let the lattice Γ consists of all finite unions of products.

Let the lattice Γ^* be the lattice of complements of elements of the lattice Γ .

PROBLEM 1945. Is \prod^{FCD} a bijection from a. $\mathfrak{F}\Gamma$; b. $\mathfrak{F}\Gamma^*$ to:

- 1°. prestaroids on \mathfrak{A} ;
- 2°. staroids on \mathfrak{A} ;
- 3°. completary staroids on \mathfrak{A} ?

If yes, is up^Γ defining the inverse bijection?

If not, characterize the image of the function \prod^{FCD} defined on a. $\mathfrak{F}\Gamma$; b. $\mathfrak{F}\Gamma^*$.

21.21.2. Informal questions. Do products of funcoids and reloids coincide with Tychonoff topology?

Limit and generalized limit for multiple arguments.

Is product of connected spaces connected?

Product of T_0 -separable is T_0 , of T_1 is T_1 ?

Relationships between multireloids and staroids.

Generalize the section “Specifying funcoids by functions or relations on atomic filters” from [29].

Generalize “Relationships between funcoids and reloids”.

Explicitly describe the set of complemented funcoids.

Formulate and prove associativity of staroidal product.

What are necessary and sufficient conditions for $\text{up } f$ to be a filter (for a funcoid f)? (See also proposition 1126.)