

Tensor products of logics containing **S4**

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In this talk we consider a product-like construction on general frames and on modal algebras, which leads to an analogue of the product operation for arbitrary, not only Kripke complete, logics. This operation was first introduced by Y. Hasimoto in 2000. Later, in 2012, it was noted that the Boolean part of the resulting modal algebra is exactly the tensor product of original algebras (our joint result with D. Gabbay and V. Shehtman). An easy observation is that if we consider this operation on logics containing **S4**, then the composition of the resulting modal operators also validates **S4**-axioms (exactly like in the case of the usual product of preorders). We would like to discuss this operation in the topological context: we will quote some known results, but the main objective of the talk is to formulate a number of open questions.