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**HAYATO NASU**, Kyoto University, Research Institute for Mathematical Sciences

*Double categories of relations relative to factorization systems*

Double categories generalize ordinary categories by incorporating two distinct kinds of morphisms. A prototypical example is the double category of functions and binary relations as the two kinds of morphisms. Using the notion of factorization systems, one can construct a broader class of examples of double categories in a similar manner. In this poster talk, we will present an axiomatic approach to characterizing this class of double categories. This talk is based on joint work with Keisuke Hoshino (Kyoto Univ).