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A double category take on restriction categories

The theory of partial morphisms is of considerable interest in theoretical computer science and other areas such as algebraic or differential geometry. It is nicely formalized in the notion of restriction category introduced by Cockett and Lack. The theory is well motivated and well developed but is somewhat tangential to mainstream category theory. The present work is an attempt to bring it back into the fold, so to speak. We will discuss the following questions. What can double categories tell us about restriction categories? And, more importantly for us, what can restriction categories tell us about double categories?

REFERENCES:

- [1] J.R.B. Cockett, Stephen Lack, Restriction categories I: categories of partial maps, *Theoretical Computer Science* 270 (2002) 223–259.