# Sifted Inductive Completion over Cartesian Closed Bases

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A sifted weight over a cartesian closed basis $\mathcal{V}$ that is strongly lfp as such is considered to be a functor, whose left Kan extension along the Yoneda embedding preserves (conical) finite products and cotensors with strongly finitely presentable (sfp) objects. We assume that the functor $V\colon \mathcal{V}_o \to \mathrm{Set}$ preserves colimits. Then the sifted completion of a $\mathcal{V}$-category $\mathcal{A}$ has as underlying ordinary category the ordinary sifted completion of $\mathcal{A}_o$. We exploit this in order to characterize the situation where $\mathrm{Sind}(\mathcal{A})$ is complete. As a corollary we show that a $\mathcal{V}$-category is a sifted inductive completion and cocomplete iff it is a sifted inductive completion and complete iff it is a sifted inductive completion of small $\mathcal{V}$-category with coproducts and tensors with sfp objects. All the above can be generalized to $\mathbb{D}$-inductive completions for a sound doctrine $\mathbb{D}$.

## References

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*Joint work with Jiří Velebil