On homotopy topoi and the $\mathbb{A}^1$-homotopical category

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A homotopy topos (which is approximately the same as an ∞-topos) satisfies nice homotopical descent properties giving statements as the Blakers-Massey theorem for free. The $\mathbb{A}^1$-homotopical category is unfortunately not a homotopy topos. However, it satisfies at least some of its properties and in particular the analogue of Mather's second cube theorem holds. This yields, together with F. Morel's connectivity theorems over a field, a variant of the Blakers-Massey theorem. Eventually, we'll discuss some work in progress on constructing a homotopy topos close to the $\mathbb{A}^1$-homotopical category. The second part is joint work with G. Raptis.