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On non-negativity of stringy Hodge numbers

Crepant resolutions have inspired connections between birational geometry, derived categories, representation theory, and motivic integration. Stringy Hodge numbers are invariants of log-terminal varieties designed to capture the Hodge theoretic information of a crepant resolution, even when no crepant resolution exists. In this talk, we will characterize log-terminal singularities as those admitting a crepant resolution by a stack. We will additionally give a complete classification for when stringy Hodge numbers are non-negative, including explicit counter-examples to Batyrev's non-negativity conjecture. This is based on joint work with Jiahui Huang and Jeremy Usatine.