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BRIESKORN SPHERES, HOMOLOGY COBORDISM AND HOMOLOGY BALLS

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Abstract

A classical question in low-dimensional topology asks which homology 3-spheres bound homology 4-balls. This question is fairly addressed to Brieskorn spheres $\Sigma(p, q, r)$. Since they are defined to be links of singularities $x^p + y^q + z^r = 0$, Brieskorn spheres are algebro-geometric originated 3-manifolds. Over the years, Brieskorn spheres also have been the main objects for the understanding of the algebraic structure of the integral homology cobordism group. In this talk, we will present several families of Brieskorn spheres which do or do not bound integral and rational homology balls. Also, we will investigate their positions in both integral and rational homology cobordism groups.

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Details : <http://sntp.ca/ucgen/>