

Singularities in Geometry and Topology in honour of Sabir Gussein-Zade with occasion of his 60<sup>th</sup> birthday.  
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## Cohomology groups of quasi-homogenous Hilbert spaces

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### SUMMARY

We denote by  $(\mathbb{C}^2)_{a,b}^{[n]}$  the Hilbert scheme that parametrizes quasi-homogeneous ideals in the ring  $\mathbb{C}[x, y]$ . In the talk we give a formula for the Betti numbers of irreducible components of the variety  $(\mathbb{C}^2)_{1,k}^{[n]}$ . We formulate the conjectural formula for the generating function for the Betti numbers of the varieties  $(\mathbb{C}^2)_{a,b}^{[n]}$ . We apply our result for a computation of the Betti numbers of the homogeneous nested Hilbert schemes.

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