

The cd -index of a semi-Eulerian poset

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We generalize the definition of the cd -index of a Eulerian poset to the class of semi-Eulerian posets. For connected simplicial semi-Eulerian Buchsbaum posets, we show that all coefficients of the cd -index are nonnegative. This proves a conjecture of Novik for odd-dimensional manifolds and extends it to the even-dimensional case. Joint work with Martina Juhnke and Lorenzo Venturello.

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