

Workshop on Interactions Between  
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## $\mathbb{Z}/2\mathbb{Z}$ Hodge spaces of toric varieties

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### **Abstract**

We introduce the notion of a cosheaf on a fan and define the  $\mathbb{Z}/2\mathbb{Z}$  Hodge spaces of a fan. The  $\mathbb{Z}/2\mathbb{Z}$  Hodge Spaces of  $\Sigma$  comprise the  $E^2$  term of two different spectral sequences: one converging to the  $\mathbb{Z}/2\mathbb{Z}$  homology of  $X(C)$  and one converging to the  $\mathbb{Z}/2\mathbb{Z}$  homology of  $X(R)$  where  $X$  is the toric variety associated to  $\Sigma$ . We compute the  $\mathbb{Z}/2\mathbb{Z}$  Hodge spaces when  $\Sigma$  is the normal fan of a reflexive polytope and determine the collapsing of the two spectral sequences in certain cases.