

APPLICATIONS OF HODGE THEORY IN MATROID THEORY #2

Online seminar

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Time: Thur, Apr. 23th, 15:00-16:30

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Abstract: Hodge theory is an important tool in the study of topology of complex algebraic varieties. Recently, due to the work of Karim Adiprasito, Matthew Baker, June Huh and Eric Katz and Botong Wang, etc., it has found several surprising applications to some well-known problems in the theory of matroids.

In this expository talk, we will introduce related background and idea, and describe how this fancy approach of Hodge theory can be applied to solve a problem in combinatorics. We will also try to present some details if possible.

Reference:

1. Karim Adiprasito, June Huh, and Eric Katz, Hodge theory for combinatorial geometries, *Ann. Math.* 188 (2018), 1-72.
2. Matthew Baker, Hodge theory in combinatorics, *Bulletin of A. M. S.* 55, No. I, (2018), 57-80.
3. June Huh, Botong Wang, Enumeration of points, lines, planes, etc., *Acta Math.*, 218 (2017), 297-317.