



## Mathematics and CS Seminar

# Strong approximation: Arithmetic purity and squarefree value

**Yang CAO**

University of Hannover

Host: Timothy Browning

Strong approximation with Brauer-Manin obstruction is defined by Colliot-Thelene and Xu to study the local-global principle for the integral points. For an algebraic variety, inspired by analytic number theory, I consider the density of integral points with coprime values or squarefree values in adelic space: the arithmetic purity or squarefree values of strong approximation. On the other side, for a semi-simple, simply connected  $k$ -simple linear algebraic group  $G$ , it is conjectured by Wittenberg that  $G$  satisfies arithmetic purity: the complement of any codimension  $\geq 2$  closed subset satisfies strong approximation. We prove this conjecture for  $k$ -isotropic groups by an analogue of fibration method and for Spin groups by using the density of rational points with almost prime polynomial values. This is joint work with Zhizhong Huang.

**Thursday, November 14, 2019 01:30pm - 03:30pm**

Heinzel Seminar Room / Office Bldg West (I21.EG.101)



This invitation is valid as a ticket for the ISTA Shuttle from and to Heiligenstadt Station.

Please find a schedule of the ISTA Shuttle on our webpage:

<https://ista.ac.at/en/campus/how-to-get-here/> The ISTA Shuttle bus is marked ISTA Shuttle (#142) and has the Institute Logo printed on the side.