

640 Ferry Street  
Lafayette, Indiana 47901  
USA

To whom it may concern,

I am writing to apply for the Caltech-Tsinghua joint postdoctoral fellowship (Fellowship ID 21163).

I am a Ph.D. candidate at Purdue University, under the direction of D.B. McReynolds. I expect to complete my degree by May of 2023. My research interests include geometry and topology, spectral theory, number theory, representation theory, harmonic analysis, and interactions thereof. My thesis work concerns an absolute spectral rigidity result, which applies to a large class of arithmetic hyperbolic 2 and 3 manifolds. One application of this theorem proves that all principal congruence Hurwitz surfaces are spectrally rigid. I have also co-authored a paper in which we construct large collections of algebraic and differential geometric objects which are indistinguishable by means of various invariants.

I consider teaching to be an essential role of the mathematician, and am committed to fostering a safe, inclusive, and open environment for students.

Please find my curriculum vitae and research and teaching statements attached. Letters in support of my application, written by D.B. McReynolds, J. LaFont, and A. Reid, will be submitted through the forms on mathjobs.com. Please contact me for any further information.

Sincerely,

Justin Katz  
Mathematics Department  
Purdue University  
1610 Purdue Mall  
West Lafayette, IN 47907  
(219) 210-9452  
jukatz93@gmail.com