

Stanford



Brandon Rayhaun

Ph.D. Student in Physics, admitted Autumn 2016

 Curriculum Vitae available Online

Bio

BIO

I am a student in the physics PhD program with an interest in quantum gravity, mathematical physics, and some aspects of condensed matter physics. My main work has been on a subject called 'moonshine' which explores particular relationships between number theory and group theory through the lens of string theory.

HONORS AND AWARDS

- Phi Beta Kappa, Phi Beta Kappa Society (2014)

EDUCATION AND CERTIFICATIONS

- BS, University of Chicago, Mathematics (2015)

LINKS

- My personal website/blog: <http://www.brandonrayhaun.com/>

Publications

PUBLICATIONS

- **Modular Products and Modules for Finite Groups** *arXiv*
Duncan, J. F., Harvey, J. A., Rayhaun, B. C.
2022
- **Two New Avatars of Moonshine for the Thompson Group** *arXiv*
Duncan, J. F., Harvey, J. A., Rayhaun, B. C.
2022
- **Fractons and Exotic Symmetries from Branes** *FORTSCHRITTE DER PHYSIK-PROGRESS OF PHYSICS*
Geng, H., Kachru, S., Karch, A., Nally, R., Rayhaun, B. C.
2021
- **Conformal Field Theories with Sporadic Group Symmetry** *Communications in Mathematical Physics*
Bae, J., Harvey, J. A., Lee, K., Lee, S., Rayhaun, B. C.
2021
- **Higher-Form Subsystem Symmetry Breaking: Subdimensional Criticality and Fracton Phase Transitions** *arXiv*
Rayhaun, B. C., Williamson, D. J.
2021
- **An Overview of Penumbral Moonshine** *arXiv*
Duncan, J. F., Harvey, J. A., Rayhaun, B. C.

2021

- **Kitaev's quantum double model as an error correcting code** *QUANTUM*
Cui, S. X., Ding, D., Han, X., Penington, G., Ranard, D., Rayhaun, B. C., Zhou Shangnan
2020; 4
- **Attractive strings and five-branes, skew-holomorphic Jacobi forms and moonshine** *JOURNAL OF HIGH ENERGY PHYSICS*
Cheng, M. N., Duncan, J. R., Harrison, S. M., Harvey, J. A., Kachru, S., Rayhaun, B. C.
2018
- **Simulating tactile signals from the whole hand with millisecond precision** *Proceedings of the National Academy of Sciences*
Saal, H. P., Delhaye, B. P., Rayhaun, B. C., Bensmaia, S. J.
2017
- **Traces of singular moduli and moonshine for the Thompson group** *Communications in Number Theory and Physics*
Harvey, J. A., Rayhaun, B. C.
2016; 10: 23-62