Stanford

Sebastian Baum

Postdoctoral Scholar, Physics

Bio

BIO

I am a theoretical physicist working on Beyond the Standard Model (BSM) particle physics phenomenology. In particular, I am interested in using particle colliders to probe BSM models via their Higgs sector and in unraveling the nature of Dark Matter via model building and experimental probes such as Direct Detection type experiments.

PROFESSIONAL EDUCATION

- Bachelor of Science, University of Hamburg (2014)
- Doctor of Philosophy, Stockholm University (2019)
- Master of Science, Uppsala Universitet (2015)

STANFORD ADVISORS

- Peter Graham, Postdoctoral Faculty Sponsor

LINKS

- Inspire: http://inspirehep.net/search?p=exactauthor%3AS.Baum.1&sf=earliestdate

Publications

PUBLICATIONS

- **The tiny (g-2) muon wobble from small-mu, supersymmetry** *JOURNAL OF HIGH ENERGY PHYSICS*
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- **New Projections for Dark Matter Searches with Paleo-Detectors** *Instruments*
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- **Searching for dark matter with paleo-detectors** *PHYSICS LETTERS B*
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- **Impact of a XENONnT signal on LHC dijet searches** *JOURNAL OF HIGH ENERGY PHYSICS*
  Baum, S., Catena, R., Krauss, M. B.
  2019
- **The NMSSM is within reach of the LHC: mass correlations & decay signatures** *JOURNAL OF HIGH ENERGY PHYSICS*
  Baum, S., Shah, N. R., Freese, K.
  2019
- **Digging for dark matter: Spectral analysis and discovery potential of paleo-detectors** *PHYSICAL REVIEW D*
  Edwards, T. P., Kavanagh, B. J., Weniger, C., Baum, S., Drukier, A. K., Freese, K., Gorski, M., Stengel, P.
  2019; 99 (4)
- **Paleo-detectors: Searching for dark matter with ancient minerals** *PHYSICAL REVIEW D*
  Drukier, A. K., Baum, S., Freese, K., Gorski, M., Stengel, P.
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- **Dark Matter implications of DAMA/LIBRA-phase2 results** *PHYSICS LETTERS B*
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- **Two Higgs doublets and a complex singlet: disentangling the decay topologies and associated phenomenology** *JOURNAL OF HIGH ENERGY PHYSICS*
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- **Higgs portals for thermal Dark Matter. EFT perspectives and the NMSSM** *JOURNAL OF HIGH ENERGY PHYSICS*
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  2018
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- **Dark matter capture, subdominant WIMPs, and neutrino observatories** *PHYSICAL REVIEW D*
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- **Detecting solar chameleons through radiation pressure** *PHYSICS LETTERS B*
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