Stanford

Ken Van Tilburg

Assistant Professor of Physics

CONTACT INFORMATION

- **Admin Contact**

  LITP

  Email litpadmin@stanford.edu

Bio

ACADEMIC APPOINTMENTS

- Assistant Professor, Physics

Teaching

COURSES

2026-27

- Graduate Quantum Mechanics II: PHYSICS 231 (Spr)
- Mathematical Methods for Physics: PHYSICS 112 (Win)

2025-26

- Mathematical Methods for Physics: PHYSICS 112 (Spr)

Publications

PUBLICATIONS

- **Orbital dynamics of the solar basin** *JOURNAL OF HIGH ENERGY PHYSICS*
  Giovanetti, C., Lasenby, R., Van Tilburg, K.
  2024

- **New approaches to dark matter detection** *NATURE REVIEWS PHYSICS*
  Hochberg, Y., Kahn, Y. E., Leane, R. K., Rajendran, S., Van Tilburg, K., Yu, T., Zurek, K. M.
  2022

- **New Constraints on Dark Photon Dark Matter with Superconducting Nanowire Detectors in an Optical Haloscope.** *Physical review letters*
  Chiles, J., Charaev, I., Lasenby, R., Baryakhtar, M., Huang, J., Roshko, A., Burton, G., Colangelo, M., Van Tilburg, K., Arvanitaki, A., Nam, S. W., Berggren, K. K.
  2022; 128 (23): 231802

- **Large-misalignment mechanism for the formation of compact axion structures: Signatures from the QCD axion to fuzzy dark matter** *PHYSICAL REVIEW D*
  Arvanitaki, A., Dimopoulos, S., Galanis, M., Lehner, L., Thompson, J. O., Van Tilburg, K.
  2020; 101 (8)

- **Resonant Absorption of Bosonic Dark Matter in Molecules** *PHYSICAL REVIEW X*
  Arvanitaki, A., Dimopoulos, S., Van Tilburg, K.
  2018; 8 (4)
- **Search for light scalar dark matter with atomic gravitational wave detectors** *PHYSICAL REVIEW D*
  Arvanitaki, A., Graham, P. W., Hogan, J. M., Rajendran, S., Van Tilburg, K.
  2018; 97 (7)
- **Sound of Dark Matter: Searching for Light Scalars with Resonant-Mass Detectors.** *Physical review letters*
  Arvanitaki, A., Dimopoulos, S., Van Tilburg, K.
  2016; 116 (3): 031102-?
- **Search for Ultralight Scalar Dark Matter with Atomic Spectroscopy** *PHYSICAL REVIEW LETTERS*
  Van Tilburg, K., Leefer, N., Bougas, L., Budker, D.
  2015; 115 (1)
- **Towards a Bullet-proof test for indirect signals of dark matter** *PHYSICAL REVIEW D*
  Graham, P. W., Rajendran, S., Van Tilburg, K., Wiser, T. D.
  2015; 91 (10)
- **Searching for dilaton dark matter with atomic clocks** *PHYSICAL REVIEW D*
  Arvanitaki, A., Huang, J., Van Tilburg, K.
  2015; 91 (1)
- **The last vestiges of naturalness** *JOURNAL OF HIGH ENERGY PHYSICS*
  Arvanitaki, A., Baryakhtar, M., Huang, X., Van Tilburg, K., Violladoro, G.
  2014
- **Supersymmetry in the shadow of photini** *JOURNAL OF HIGH ENERGY PHYSICS*
  Baryakhtar, M., Craig, N., Van Tilburg, K.
  2012