

Ken Van Tilburg

Assistant Professor of Physics

Bio

ACADEMIC APPOINTMENTS

- Assistant Professor, Physics

Teaching

COURSES

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., Leefler, 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