A radio view of dust-obscured star formation

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Publications

An ultra-deep multi-band VLA survey of the faint radio sky (COSMOS-XS): ALMA confirms optically dark population at $z > 3$
D. van der Vlugt, S. Jin, J.A. Hodge & H.S.B. Algera
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(Chapter Five)

An ultra-deep multi-band VLA survey of the faint radio sky (COSMOS-XS): New constraints on the optically dark population
D. van der Vlugt, J.A. Hodge, S. Jin, H.S.B. Algera, S.K. Leslie, D. Riechers, H. Röttgering, V. Smolčić & F. Walter
2023, *The Astrophysical Journal*, 51, 131

(Chapter Four)

An Ultra-deep Multi-band VLA Survey of the Faint Radio Sky (COSMOS-XS): New Constraints on the Cosmic Star Formation History
D. van der Vlugt, J.A. Hodge, H.S.B. Algera, I. Smail, S.K. Leslie, J.F. Radcliffe, D. Riechers & H. Röttgering
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(Chapter Three)

An Ultra-deep Multi-band VLA Survey of the Faint Radio Sky (COSMOS-XS): Source Catalog and Number Counts
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(Chapter Two)

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I. van Vledder, **D. van der Vlugt**, B.W. Holwerda, M.A. Kenworthy, R.J. Bouwens & M. Trenti
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Curriculum Vitae

I was born in Hillegom on January 11th, 1994. After moving to the neighboring town of Lisse, I attended the Atheneum at the Fioretti College high school with a curriculum focused on science and technology. I decided to pursue a bachelor's degree in astronomy at the Leiden University. I undertook my bachelor's research with fellow student and friend Isabel van Vledder. We determined the size and shape of the Milky Way disc and halo using M-type brown dwarfs. We published our findings in *Monthly Notices of the Royal Astronomical Society*. Subsequently, I obtained my BSc in 2015.

I chose to continue onward with a MSc in astronomy at the Leiden University with the cosmology specialization. During this time, I was introduced to radio astronomy and studied the double radio relic system in PSZ1 G108.18-11.53 under the supervision of prof.dr. Francesco de Gasperin. In my master's thesis I learned about cosmological simulations and, under the supervision of dr. Tiago Costa, studied the effect of AGN feedback on the growth in size of the first quasars. This work was later published in *Monthly Notices of the Royal Astronomical Society*. I obtained my MSc from Leiden University in 2017.

In the same year, I was fortunate to secure a place in the PhD program at Leiden University, studying the dust-obscured star formation under the supervision of Dr. Jacqueline Hodge. During my PhD, I have written four scientific articles, have contributed to three more, and have presented my work at national and international conferences and workshops. In 2019, I was able to visit the Max Planck Institute for astronomy in Heidelberg for three months. For three semesters, I have been the teaching assistant for the course Bachelor Research Project. I was also involved in the bachelor's theses of Kasper Roewen, Lotte Jansen and Nikki Geesink and the master's project of Drishyaman Kashyap.

After more than a decade of astronomy at Leiden University, I will say goodbye to academia and astronomy. I am grateful for the years I have spent learning about the cosmos and I am excited to learn what the future will bring.

Acknowledgments

During my years at Leiden University – from the start of my bachelor to the end of my PhD – I have met a large number of amazing people. I hereby want to express my gratitude to those who have helped me, directly or indirectly, along the way. I have tried to be as comprehensive as possible while acknowledging that such an attempt will inevitably contain unintended oversights, for which I apologize.

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