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High angular resolution studies of protoplanetary discs

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**HIGH ANGULAR RESOLUTION STUDIES
OF PROTOPLANETARY DISCS**

HIGH ANGULAR RESOLUTION STUDIES OF PROTOPLANETARY DISCS

PROEFSCHRIFT

ter verkrijging van
de graad van Doctor aan de Universiteit Leiden,
op gezag van de Rector Magnificus prof. mr. P. F. van der Heijden,
volgens besluit van het College voor Promoties
te verdedigen op dinsdag 27 oktober 2009
te klokke 13.45 uur

door

Olja Panić

geboren te Gračanica, Bosnië Herzegovina
in 1978

Promotiecommissie

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Dr. D. Wilner (Harvard-Smithsonian Center for Astrophysics)

The great use of life is to spend it for something that will outlast it.
WILLIAM JAMES

Front cover: The 'Constellation number 4', painted by M. Barceló in 1970, some time before first discs around young stars were imaged. The painting closely resembles a rotating disc of gas and dust seen face-on, with pebbles, rocks and perhaps a few planets. The disc surface (yellow) illuminated by the star is not perfectly symmetric and one side appears 'warmer' than the other, an amazing coincidence to disc observations in Chapter 7 of this thesis. The insects in the painting can be seen as the potential for life: It is not clear whether these will survive the rough conditions as it is not clear whether the delicate conditions for life exist in the planetary systems we observe around other stars. The great detail in the painting draws us to look ever closer, trying to resolve the structure. With ALMA in future we may be able to do this.

MIQUEL BARCELÓ
CONSTEL·LACIÓ NÚMERO 4, 1970
Oil on canvas 200×200 cm
MUSEÚ FUNDACIÓ JUAN MARCH, PALMA (SPAIN)
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Contents

1	Introduction	1
1.1	How it all begins	2
1.2	Disc physical properties	3
1.3	Feedback for planet formation	4
1.4	Observations of protoplanetary discs	5
1.5	Submillimetre interferometry	7
1.6	This thesis	9
1.6.1	Disc modelling approach proposed by this thesis	10
1.6.2	Chapter 1	11
1.6.3	Chapter 3	13
1.6.4	Chapter 4	13
1.6.5	Chapter 5	14
1.6.6	Chapter 6	14
1.6.7	Chapter 7	15
1.6.8	Conclusions and future prospects	15
2	Gas and dust mass in the disc around the Herbig Ae star HD169142	19
2.1	Introduction	20
2.2	HD169142	20
2.3	Observations and results	22
2.4	Discussion	23
2.4.1	Adopted disc model	23
2.4.2	Dust continuum emission	25
2.4.3	Molecular line emission	26
2.4.4	Gas-to-dust ratio	32
2.4.5	Micro turbulence	34
2.5	Summary	35
3	A break in the gas and dust surface density of the disc around the T Tauri star IM Lup	39
3.1	Introduction	40
3.2	Observations	42
3.3	Results	42
3.3.1	Dust continuum	42

3.3.2	Molecular lines	44
3.4	Discussion	45
3.4.1	Molecular-line emission from the dust-disc model	48
3.4.2	Extending the gas disc beyond 400 AU	50
3.4.3	Comparing gas and dust at radii beyond 400 AU	53
3.5	Conclusions	58
4	An arc of gas and dust around the young star DoAr 21	61
4.1	Introduction	62
4.2	Observations	65
4.2.1	SINFONI observations	65
4.2.2	VISIR observations	66
4.3	Results	66
4.4	Discussion	70
4.4.1	Location and mass of the emitting material	70
4.4.2	Possible explanations for the observed arc of emission	72
4.5	Conclusions	74
5	Characterising discs around Herbig Ae/Be stars through modelling of low-J ^{12}CO lines	81
5.1	Introduction	82
5.2	Observations and results	83
5.2.1	Gas and dust submillimetre emission towards the source sample	84
5.3	Comparison to the SED-based disc models	86
5.4	Modelling and analysis of the ^{12}CO $J=3-2$ spectra	91
5.4.1	Power-law disc models	91
5.4.2	Model results	95
5.4.3	Individual sources	97
5.5	Conclusions	100
5.6	Appendix: HARP mapping of the V892 Tau region	103
6	Comparing molecular gas and dust in discs around T Tauri stars	105
6.1	Introduction	106
6.2	Observations	107
6.3	Results	108
6.4	Discussion	112
6.4.1	Modelling the millimetre continuum emission	112
6.4.2	Modelling the ^{12}CO and ^{13}CO $J=1-0$ emission	116
6.4.3	Optimising the model parameters	120
6.5	Summary and conclusions	124

7	Abundant warm molecular gas in the disc around HD 100546	129
7.1	Introduction	130
7.2	Observations and results	131
7.3	Discussion	135
7.3.1	CO line emission	135
7.3.2	Disc parametric model and best-fit parameters	135
7.3.3	^{12}CO line ratios	139
7.3.4	Implications of the [C I] $J=2-1$ non-detection	140
7.3.5	Implications for the dust continuum emission	141
7.4	Conclusions	141
	Nederlandse Samenvatting	145
	Curriculum Vitae	153
	Acknowledgements	155

