

# Publication list

(*Electronic links available in blue*)

## Resume:

Total number of referred publications

**120 articles.**

Articles as 1<sup>er</sup> author

**20 articles.**

25257 Citations (ADS, 22 May 2024)

**H index 46.**

Conference proceedings

**84 articles.**

Color legend for different topics:

Stars ● - 64 articles, planets ● - 13 articles, instrumental ● - 2 articles, large collaborations ● - 41 articles.

## Referred publications

### 2024

1. **A. Chiavassa**, K. Kravchenko, J. Goldberg ●  
Signatures of convection in the atmospheres of cool evolved stars, *Living Reviews in Computational Astrophysics, Springer Nature*
2. J. Z. Ma, **A. Chiavassa**, S. E. de Mink, R. Valli, S. Justham, B. Freytag ●  
Is Betelgeuse really rotating? Synthetic ALMA observations of large-scale convection in 3D simulations of Red Supergiants, *ApJ*
3. D. Jادlovsky et al. ●  
The Great Dimming of Betelgeuse: the photosphere as revealed by tomography during the past 15 years, *Astronomy & Astrophysics*
4. L. Planquart et al. ●  
An impressionist view of V Hydrae. When MATISSE paints Asymmetric Giant Blobs, *Astronomy & Astrophysics*
5. A. Rosales-Guzman et al. et al. ●  
A new dimension in the variability of AGB stars: convection patterns size changes with pulsation, *Astronomy & Astrophysics*
6. Gaia Collaboration ●  
Discovery of a dormant 33 solar-mass black hole in pre-release Gaia astrometry Gaia, *Astronomy & Astrophysics*

7. E. Pallé et al. ●  
Ground-breaking Exoplanet Science with the ANDES spectrograph at the ELT, *Experimental Astronomy*, submitted
8. I. Roederer et al. ●  
The discovery space of ELT-ANDES. Stars and stellar populations, *Experimental Astronomy*
9. J. Drevon et al. ●  
Images of Betelgeuse with VLTI/MATISSE across the Great Dimming, *MNRAS*, 527, L88
10. B. Klein et al. ●  
ATMOSPHERIX: I- An open source high resolution transmission spectroscopy pipeline for exoplanets atmospheres with SPIRou, *MNRAS*, 527, 544
11. F. Debras et al. ●  
ATMOSPHERIX: II- Characterising exoplanet atmospheres through transmission spectroscopy with SPIRou, *MNRAS*, 527, 566
12. G. Roccetti et al. ●  
Presence of liquid water during the evolution of exomoons orbiting ejected free-floating planets, *International Journal of Astrobiology*, 22, 4, 317-346
13. E. Cannon et al. ●  
The dusty circumstellar environment of Betelgeuse during the Great Dimming as seen by VLTI/MATISSE, *Astronomy & Astrophysics*, 675, A46
14. Gaia Collaboration ●  
Gaia Focused Product Release: Asteroid orbital solution. Properties and assessment, *Astronomy & Astrophysics*, 680, A37
15. Gaia Collaboration ●  
Gaia Focused Product Release: Spatial distribution of two diffuse interstellar bands, *Astronomy & Astrophysics*, 680, A38
16. Gaia Collaboration ●  
Gaia Focused Product Release: Radial velocity time series of long-period variables, *Astronomy & Astrophysics*, 680, A36
17. Gaia Collaboration ●  
Gaia Focused Product Release: Sources from Service Interface Function image analysis. Half a million new sources in omega Centauri, *Astronomy & Astrophysics*, 680, A35
18. Gaia Collaboration ●  
Gaia Focused Product Release: A catalogue of sources around quasars to search for strongly lensed quasars, *Astronomy & Astrophysics*, in press
19. Gaia Collaboration ●  
Gaia Data Release 3. The extragalactic content, *Astronomy & Astrophysics*, 674, A41
20. Gaia Collaboration ●  
Gaia Data Release 3. Exploring and mapping the diffuse interstellar band at 862 nm, *Astronomy & Astrophysics*, 674, A40

21. Gaia Collaboration ●  
Gaia Early Data Release 3. The celestial reference frame (Gaia-CRF3), *Astronomy & Astrophysics*, 667, A148

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## 2022

22. M. C. Maimone, M. Brogi, **A. Chiavassa**, et al. ●  
Detecting H<sub>2</sub>O with CRILES+: the case of WASP-20b, *Astronomy & Astrophysics*, 667, A106
23. **A. Chiavassa**, R. Kudritzki, B. Davies, B. Freytag, S. E. de Mink ●  
Probing red supergiant dynamics through photo-center displacements measured by Gaia, *Astronomy & Astrophysics*, 661, L1 (*Press Release*)
24. A. Kozyreva, J. Klencki, A. V. Filippenko, P. Baklanov, A. Mironov, S. Justham, **A. Chiavassa** ●  
The circumstellar material around the Type IIP SN 2021yja, *ApJ*, 934, L31
25. Gaia Collaboration ●  
Gaia Data Release 3: Summary of the content and survey, *Astronomy & Astrophysics*, 674, A1
26. Gaia Collaboration ●  
Gaia Data Release 3: Reflectance spectra of Solar System small bodies, *Astronomy & Astrophysics*, 674, A35
27. Gaia Collaboration ●  
Gaia Data Release 3: Apsis III – Non-stellar content and source classification, *Astronomy & Astrophysics*, 674, A31
28. Gaia Collaboration ●  
Gaia Data Release 3: Analysis of the Gaia BP/RP spectra using the General Stellar Parameterizer from Photometry, *Astronomy & Astrophysics*, 674, A27
29. Gaia Collaboration ●  
Gaia Data Release 3: Pulsations in main sequence OBAF-type stars, *Astronomy & Astrophysics*, 674, A36
30. Gaia Collaboration ●  
Gaia Data Release 3: Astrophysical parameters inference system (Apsis) I – methods and content overview, *Astronomy & Astrophysics*, 674, A26
31. Gaia Collaboration ●  
Gaia Data Release 3: Apsis II – Stellar Parameters, *Astronomy & Astrophysics*, 674, A28
32. Gaia Collaboration ●  
Gaia Data Release 3: A Golden Sample of Astrophysical Parameters, *Astronomy & Astrophysics*, 674, A39
33. Gaia Collaboration ●  
Gaia Data Release 3: Stellar chromospheric activity and mass accretion from Ca II IRT observed by the Radial Velocity Spectrometer, *Astronomy & Astrophysics*, 674, A30
34. Gaia Collaboration ●  
Gaia Data Release 3: The extragalactic content, *Astronomy & Astrophysics*, 674, A41

35. Gaia Collaboration ●  
Gaia Data Release 3: Stellar multiplicity, a teaser for the hidden treasure, *Astronomy & Astrophysics*, 674, A34
36. Gaia Collaboration ●  
Gaia Data Release 3: Analysis of RVS spectra using the General Stellar Parametriser from spectroscopy Gaia Collaboration, *Astronomy & Astrophysics*, 674, A29
37. Gaia Collaboration ●  
Gaia Data Release 3: Mapping the asymmetric disc of the Milky Way Gaia Collaboration, *Astronomy & Astrophysics*, 674, A29
38. Gaia Collaboration ●  
Gaia Data Release 3: Chemical cartography of the Milky Way Gaia Collaboration, *Astronomy & Astrophysics*, 674, A38
39. Gaia Collaboration ●  
Gaia Early Data Release 3: The celestial reference frame (Gaia-CRF3), *Astronomy & Astrophysics*, 667, A148

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## 2021

40. **A. Chiavassa**, K. Kravchenko, M. Montargès et al. ●  
The extended atmosphere and circumstellar environment of the cool evolved star VX Sagittarii as seen by MATISSE, *Astronomy & Astrophysics*, 658, A185
41. M. Montargès et al. ●  
A dusty veil shading Betelgeuse during its Great Dimming, *Nature*, 594, 7863, 365 (*Press Release*)
42. P. J. Avila, T. Grassi, S. Bovino, **A. Chiavassa**, et al. ●  
Presence of water on exomoons orbiting free-floating planets: a case study, *International Journal of Astrobiology*, 20, 300 (*Press Release*)
43. K. Kravchenko, A. Jorissen, S. Van Eck, T. Merle, **A. Chiavassa**, et al. ●  
Atmosphere of Betelgeuse before and during the Great Dimming event revealed by tomography, *Astronomy & Astrophysics*, 650, L17
44. R. Norris et al. ●  
Long Term Evolution of Surface Features on the Red Supergiant AZ Cyg, *Astrophysical Journal*, 919, 124
45. M. R. Gent et al. ●  
The SAPP pipeline for the determination of stellar abundances and atmospheric parameters of stars in the core program of the PLATO mission, *Astrophysical Journal*, 658, A147
46. P.-M. Gori et al. ●  
I3T: Intensity Interferometry Imaging Telescope, *MNRAS*, 505, 2328
47. V. Hocdé et al. ●  
Mid-infrared circumstellar emission of the long-period Cepheid  $\iota$  Carinae resolved with VLTI/MATISSE, *Astronomy & Astrophysics*, 651, A92
48. E. Tognelli et al. ●

Theoretical predictions of surface light element abundances in protostellar and pre-Main Sequence phase, *Front. Astron. Space Sci.*, 8, 22

49. Gaia Collaboration ●  
Gaia Early Data Release 3: The Galactic anticentre, *Astronomy & Astrophysics*, 649, 8

## 2020

50. **A. Chiavassa**, K. Kravchenko, F. Millour, et al. ●  
Optical interferometry and Gaia measurement uncertainties reveal the physics of asymptotic giant branch stars, *Astronomy & Astrophysics*, 640, 23
51. J. B. Climent, M. Wittkowski, **A. Chiavassa** et al. ●  
VLTI-PIONIER imaging of the red supergiant V602 Carinae, *Astronomy & Astrophysics*, 635, 160
52. K. Kravchenko, M. Wittkowski, A. Jorissen, **A. Chiavassa** et al. ●  
Tomography of cool giant and supergiant star atmospheres III. Validation of the method on VLTI/AMBER, *Astronomy & Astrophysics*, 642, A235
53. V. Houdé et al. ●  
Pulsating chromosphere of classical Cepheids. Calcium infrared triplet and H $\alpha$  profile variations, *Astronomy & Astrophysics*, 641, A74
54. Gaia Collaboration ●  
Gaia Early Data Release 3: Structure and properties of the Magellanic Clouds, *Astronomy & Astrophysics*, 649, A7
55. Gaia Collaboration ●  
Gaia Early Data Release 3: Summary of the contents and survey properties, *Astronomy & Astrophysics*, 649, A1 (*Press Release*)
56. Gaia Collaboration ●  
Gaia Early Data Release 3: Acceleration of the solar system from Gaia astrometry, *Astronomy & Astrophysics*, 649, A9
57. Gaia Collaboration ●  
Gaia Early Data Release 3: The Gaia Catalogue of Nearby Stars, *Astronomy & Astrophysics*, 649, A6

## 2019

58. **A. Chiavassa** and M. Brogi ●  
Planet and star synergy at high spectral resolution. A rationale for the characterisation of exoplanet atmospheres. I. The Infrared, *Astronomy & Astrophysics*, 631, 100
59. K. Kravchenko, **A. Chiavassa**, S. Van Eck et al. ●  
Tomography of cool giant and supergiant star atmospheres II. Signature of convection in the atmosphere of the red supergiant star  $\mu$  Cep, *Astronomy & Astrophysics*, 632, 28
60. E. Flowers, M. Brogi, E. Rauscher, E. Kempton, **A. Chiavassa** ●  
The High-Resolution Transmission Spectrum of HD 189733b Interpreted with Atmospheric Doppler Shifts from Three-Dimensional General Circulation Models, *Astrophysical Journal*, 157, 209

61. X. Haubois et al. ●  
The inner dust shell of Betelgeuse detected by polarimetric aperture-masking interferometry, *Astronomy & Astrophysics*, 628, 101

62. Gaia Collaboration ●  
Gaia Data Release 2: Variable stars in the colour-absolute magnitude diagram, *Astronomy & Astrophysics*, 623, 110

## 2018

63. **A. Chiavassa**, B. Freytag, M. Shultheis ●  
Heading Gaia to measure atmospheric dynamics in AGB stars, *Astronomy & Astrophysics*, 617, L1 (*Press Release*)

64. **A. Chiavassa**, L. Casagrande, R. Collet et al. ●  
The Stagger-grid: A grid of 3D stellar atmosphere models VII. Synthetic stellar spectra and broad-band photometry, *Astronomy & Astrophysics*, 611, A11

65. T. Zwitter, J. Kos, **A. Chiavassa**, et al. ●  
The GALAH Survey: Accurate Radial Velocities and Library of Observed Stellar Template Spectra, *MNRAS*, 481, p.645.

66. M. Wittkowski, G. Rau, **A. Chiavassa**, et al. ●  
VLTI-GRAVITY measurements of cool evolved stars: I. Variable photosphere and extended atmosphere of the Mira star R Peg, *Astronomy & Astrophysics*, 613, L1

67. M. Montargès, R. Norris, **A. Chiavassa** et al. ●  
The convective photosphere of the red supergiant CE Tau. I. VLTI/PIONIER H-band interferometric imaging, *Astronomy & Astrophysics*, 614, A12

68. M. Faurobert, M. Carillet, L. Marquis, **A. Chiavassa**, and G. Ricort ●  
Temperature gradient in the solar photosphere. Test of a new spectroscopic method and study of its feasibility for ground-based telescopes *Astronomy & Astrophysics*, 616, A133

69. C. Paladini et al. ●  
Large granulation cells on the surface of the giant star  $\pi$ 1 Gruis, *Nature*, 7688, 310. (*Press Release*)

70. P. Mathias et al. ●  
Evolution of the magnetic field of Betelgeuse from 2009 - 2017, *Astronomy & Astrophysics*, 615, A116

71. I. Karovicova et al. ●  
Accurate effective temperatures of the metal-poor benchmark stars HD 140283, HD 122563 and HD 103095 from CHARA interferometry, *MNRAS*, 475, L81

72. N. Nardetto et al. ●  
CRIRES high-resolution infrared spectroscopy of the long-period Cepheid I Carinae, *Astronomy & Astrophysics*, 616, A92

73. F. Millour, D. Mourard, J. Woillez, P. Berio, **A. Chiavassa**, et al. ●  
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74. Gaia Collaboration ●  
Gaia Data Release 2: Summary of the contents and survey properties Gaia Collaboration, *Astronomy & Astrophysics*, 616, A1 (*Press Release*)
75. Gaia Collaboration ●  
Gaia Data Release 2: Mapping the Milky Way disc kinematics Gaia Collaboration, *Astronomy & Astrophysics*, 616, A13
76. Gaia Collaboration ●  
Gaia Data Release 2: Observations of solar system objects, *Astronomy & Astrophysics*, 616, A13
77. Gaia Collaboration ●  
Gaia Data Release 2: The celestial reference frame (Gaia-CRF2) Gaia Collaboration, *Astronomy & Astrophysics*, 616, A14
78. Gaia Collaboration ●  
Gaia Data Release 2: Observational Hertzsprung-Russell diagrams Gaia Collaboration, *Astronomy & Astrophysics*, 616, A10
79. Gaia Collaboration ●  
Gaia Data Release 2: Kinematics of globular clusters and dwarf galaxies around the Milky Way, *Astronomy & Astrophysics*, 637, C3

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## 2017

80. **A. Chiavassa**, F. Selsis, A. Caldas et al. ●  
Measuring stellar granulation during transiting planets, *Astronomy & Astrophysics*, Volume 597, id.A94.
81. **A. Chiavassa**, R. Norris, M. Montarges et al. ●  
Asymmetries on red giant branch surfaces from CHARA/MIRC optical interferometry, *Astronomy & Astrophysics*, Volume 600, id.L2.
82. M. Montarges, **A. Chiavassa**, P. Kervella et al. ●  
The convective surface of the red supergiant Antares. VLTI/PIONIER interferometry in the near infrared, *Astronomy & Astrophysics*, Volume 605, id.A108.
83. K. Kravchenko, S. Van Eck, **A. Chiavassa** et al. ●  
Tomography of cool giant and supergiant star atmospheres. I. Validation of the method, *Astronomy & Astrophysics*, 610, A29.
84. M. Heida, P.G. Jonker, M.A.P. Torres, **A. Chiavassa** ●  
The mass function of GX 339-4 from spectroscopic observations of its donor star, *Astrophysical Journal*, Volume 846, id.132.
85. M. Wittkowski, F. J. Abellan, B. Arroyo-Torres, **A. Chiavassa**, et al. ●  
Multi-epoch VLTI-PIONIER imaging of the supergiant V766 Cen: Image of the close companion in front of the primary, *Astronomy & Astrophysics*, Volume 606, id.L1
86. Gaia Collaboration ●  
Gaia Data Release 1. Testing the parallaxes with local Cepheids and RR Lyrae stars, *Astronomy & Astrophysics*, Volume 605, id.A79

87. Gaia Collaboration ●  
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## 2016

88. M. Wittkowski, **A. Chiavassa**, B. Freytag et al. ●  
Near-infrared spectro-interferometry of Mira variables and comparisons to 1D dynamic model atmospheres and 3D convection simulations, *Astronomy & Astrophysics*, Volume 587, id.A12
89. M. Wittkowski et al. ●  
VLTI/AMBER spectro-interferometry of the late-type supergiants V766 Cen (=HR 5171 A),  $\sigma$  Oph, BM Sco, and HD 206859, *Astronomy & Astrophysics*, Volume 597, id.A9
90. M. Montargès, P. Kervella, G. Perrin, **A. Chiavassa**, et al. ●  
The close circumstellar environment of Betelgeuse. IV. VLTI/PIONIER interferometric monitoring of the photosphere, *Astronomy & Astrophysics*, Volume 588, id.A130
91. Kervella et al. ●  
The close circumstellar environment of Betelgeuse - III. SPHERE/ZIMPOL visible polarimetry of the inner envelope and photospheres, *Astronomy & Astrophysics*, Volume 585, id.A28
92. M. Aurière et al. ●  
Discovery of a complex linearly polarized spectrum of Betelgeuse dominated by depolarization of the continuum, *Astronomy & Astrophysics*, Volume 591, id.A119
93. Gaia Collaboration ●  
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94. Gaia Collaboration ●  
The Gaia Mission, *Astronomy & Astrophysics*, Volume 595, id.A1 (*Press Release*)

## 2015

95. **A. Chiavassa**, C. Pere, M. Faurobert et al. ●  
A new view on exoplanet transits: Transit of Venus described using three-dimensional solar atmosphere Stagger-grid simulations, *Astronomy & Astrophysics*, Volume 576, A13
96. Z. Magic, **A. Chiavassa**, R. Collet et al. ●  
The Stagger-grid: A grid of 3D stellar atmosphere models - IV. Limb darkening coefficients, *Astronomy & Astrophysics*, Volume 573, id.A90
97. B. Arroyo-Torres, M. Wittkowski, **A. Chiavassa** et al. ●  
What causes the large extensions of red-supergiant atmospheres? Comparisons of interferometric observations with 1-D hydrostatic, 3-D convection, and 1-D pulsating model atmospheres, *Astronomy & Astrophysics*, Volume 575, id.A50
98. P. Cruzalèbes, A. Jorissen, **A. Chiavassa** et al. ●  
Departure from centrosymmetry of red giants and supergiants measured with VLTI/AMBE, *MNRAS*, Volume 446, p. 3277
99. O. Creevey et al. ●



Benchmark stars for Gaia: fundamental properties of the Population II star HD140283 from interferometric, spectroscopic and photometric data, *Astronomy & Astrophysics*, Volume 575, id.A26

## 2014

100. **A. Chiavassa**, R. Ligi, Z. Magic et al. ●  
Planet transit and stellar granulation detection with interferometry, *Astronomy & Astrophysics*, Volume 567, A115
101. M. Montargès et al. ●  
Properties of the CO and H<sub>2</sub>O MOLsphere of the red supergiant Betelgeuse from VLTI/AMBER observations, *Astronomy & Astrophysics*, Volume 572, A17
102. P. Cruzalèbes et al. ●  
Measuring deviation from centrosymmetry for a source brightness distribution observed by spectro-interferometry, *MNRAS*, Volume 443, 3550
103. R. Ligi et al. ●  
Transiting exoplanets and magnetic spots characterized with optical interferometry, *Astronomy & Astrophysics*, Volume 574, A69
104. P. Kervella et al. ●  
An edge-on translucent dust disk around the nearest AGB star, L2 Puppis, *Astronomy & Astrophysics*, Volume 564, A88

## 2013

105. Z. Magic et al. ●  
The Stagger-grid: A Grid of 3D Stellar Atmosphere Models - I. Methods and General Properties, *Astronomy & Astrophysics*, Volume 557, A26
106. P. Cruzalèbes et al. ●  
Fundamental parameters of 16 late-type stars derived from their angular diameter measured with VLTI/AMBER, *MNRAS*, Volume 434, p. 437
107. P. Cruzalèbes et al. ●  
SPIDAST: a new modular software to process spectro-interferometric measurements, *MNRAS*, Volume 432, p. 1658
108. B. Davies et al. ●  
The temperatures of red supergiants, *Astrophysical Journal*, Volume 767, id.3

## 2012

109. **A. Chiavassa**, L. Bigot, P. Kervella et al. ●  
Three-dimensional interferometric, spectrometric, and planetary views of Procyon, *Astronomy & Astrophysics*, Volume 540, A5
110. O. L. Creevey et al. ●  
Fundamental properties of the Population II fiducial stars HD 122563 and Gmb 1830 from CHARA interferometric observations, *Astronomy & Astrophysics*, Volume 545, A17

111. J.-P. Berger, F. Malbet, F. Baron, **A. Chiavassa** et al. ●  
Imaging the heart of astrophysical objects with optical long-baseline interferometry, *Astronomy & Astrophysics Annual Review*, Volume 20, 53

## 2011

112. **A. Chiavassa**, B. Freytag, T. Masseron, B. Plez ●  
Radiative hydrodynamics simulations of red supergiant stars. IV gray versus non-gray opacities, *Astronomy & Astrophysics*, Volume 535, A22
113. **A. Chiavassa**, E. Pasquato, A. Jorissen et al. ●  
Radiative hydrodynamics simulations of red supergiant stars. III. Spectro-photocentric variability, photometric variability, and consequences on Gaia measurements, *Astronomy & Astrophysics*, Volume 528, A120
114. **A. Chiavassa**, L. Bigot, F. Thévenin et al. ●  
3D hydrodynamical model atmospheres: a tool to correct radial velocities and parallaxes for Gaia, *Journal of Physics: Conference Series*, Volume 328, id.012012
115. P. Kervella, G. Perrin, **A. Chiavassa** et al. ●  
The close circumstellar environment of Betelgeuse - II. Diffraction-limited spectro-imaging from 7.76 to 19.50  $\mu\text{m}$  with VLT/VISIR, *Astronomy & Astrophysics*, Volume 531, A117 (*Press Release*)

## 2010

116. **A. Chiavassa**, R. Collet, L. Casagrande, and M. Asplund ●  
Three-dimensional hydrodynamical simulations of red giant stars: semi-global models for the interpretation of interferometric observations, *Astronomy & Astrophysics*, Volume 524, id.A93
117. **A. Chiavassa**, X. Haubois, J. S. Young et al. ●  
Radiative hydrodynamics simulations of red supergiant stars: II. simulations of convection on Betelgeuse match interferometric observations, *Astronomy & Astrophysics*, Volume 515, id.A12 (*Press Release*)
118. **A. Chiavassa**, S. Lacour, F. Millour, et al. ●  
VLTI/AMBER spectro-interferometric imaging of VX Sgr inhomogeneous outer atmosphere, *Astronomy & Astrophysics*, Volume 511, A51

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119. **A. Chiavassa**, B. Plez, E. Josselin, B. Freytag ●  
Radiative hydrodynamics simulations of red supergiant stars: I. interpretation of interferometric observations, *Astronomy & Astrophysics*, Volume 506, p.1351 (*Press Release*)

## 2005

120. **A. Chiavassa**, C. Ceccarelli, A.G.G.M. Tielens et al. ●  
The 90-110 micron dust feature in low to intermediate mass protostars: calcite?, *Astronomy & Astrophysics*, Volume 432, p.547