

University of Groningen

The disk-halo connection in NGC 6946 and NGC 253

Boomsma, Rense

IMPORTANT NOTE: You are advised to consult the publisher's version (publisher's PDF) if you wish to cite from it. Please check the document version below.

Document Version

Publisher's PDF, also known as Version of record

Publication date:

2007

[Link to publication in University of Groningen/UMCG research database](#)

Citation for published version (APA):

Boomsma, R. (2007). *The disk-halo connection in NGC 6946 and NGC 253*. s.n.

Copyright

Other than for strictly personal use, it is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), unless the work is under an open content license (like Creative Commons).

The publication may also be distributed here under the terms of Article 25fa of the Dutch Copyright Act, indicated by the "Taverne" license. More information can be found on the University of Groningen website: <https://www.rug.nl/library/open-access/self-archiving-pure/taverne-amendment>.

Take-down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

Downloaded from the University of Groningen/UMCG research database (Pure): <http://www.rug.nl/research/portal>. For technical reasons the number of authors shown on this cover page is limited to 10 maximum.

Bibliography

- Abbott, D. C. 1982, *ApJ*, 263, 723
- Alton, P. B., Davies, J. I. & Trewhella, M. 1998, *MNRAS*, 296, 773
- Arp, H. C. 1966, *ApJS*, 14, 1
- Avillez, M. A. de & Berry, D. L. 2001, *MNRAS*, 328, 708
- Barbieri, C. V., Fraternali, F., Oosterloo, T. A., Bertin, G., Boomsma, R., Sancisi, R. 2005, *A&A*, in press
- Beck, R., Hutschenreiter, G. & Wielebinski, R. 1982, *A&A*, 106, 112
- Begeman, K. G. 1989, *A&A*, 223, 47
- Begum, A., Chengalur, J. N. 2004, *A&A*, 424, 509
- Belokurov, V., Evans, N. W., Irwin, M. J., Lynden-Bell, D., Yanny, B., Vidrih, S., Gilmore, G., Seabroke, G., Zucker, D. B., Wilkinson, M. I., Hewett, P. C., Bramich, D. M., Fellhauer, M., Newberg, H. J., Wyse, R. F. G., Beers, T. C., Bell, E. F., Barentine, J. C., Brinkmann, J., Cole, N., Pan, K., York, D. G. 2006, *ApJ* submitted (astro-ph/0605705)
- Bland-Hawthorn, J., Freeman, K. C., Quinn, P. J. 1997, *ApJ*, 490, 143
- Bosma, A., 1981, *AJ*, 86, 1791
- Bottema, R., Shostak, G. S. & van der Kruit, P. C. 1986, *A&A*, 167, 34
- Bottema, R. 2003, *MNRAS*, 344, 358
- Boulangier, F. & Viallefond, F. 1992, *A&A*, 266, 37
- Bournaud, F., Combes, F., Jog, C. J., Puerari, I. 2005, *A&A*, 438, 507
- Bregman, J. N. 1980, *ApJ*, 236, 577
- Briggs, F. H. 1982, *ApJ*, 259, 544
- Briggs, D. S. 1995, *BAAS*, 27, 1444
- Brinks, E. & Burton, W. B. 1984, *A&A*, 141, 195
- Brinks, E. & Bajaja, E. 1986, *A&A*, 169, 14
- Broeils, A. H., 1992, Ph.D. thesis, Univ. Groningen
- van Buren, D. 1985, *ApJ*, 294, 567
- Carignan, C., Charbonneau, P., Boulangier, F., Viallefond, F. 1990, *A&A*, 234, 43
- Carilli, C. L., Holdaway, M. A., Ho, P. T. P., De Pree, C. G. 1992, *ApJ*, 399, L59

- Chevalier, R. A. 1974, *ApJ*, 188, 501
- Chevalier, R. A. 1977, *ARA&A*, 15 175
- Clark, B. G. 1980, *A&A*, 89, 377
- Collins, J. A., Benjamin, R. A., Rand, R. J., 2004, *ApJ*, 578, 98
- Contursi, A., Kaufman, M. J., Helou, G., Hollenbach, D. J., Brauher, J., Stacey, G. J., Dale, D. A., Malhotra, S., Rubio, M., Rubin, R. H., Lord, S. D. 2002, *AJ*, 124, 751
- Cox, D. P. & Smith, B. W. 1974, *ApJ*, 189, L105
- Cox, T. J., Jonsson, P., Primack, J. R., Somerville, R. S. 2006, *MNRAS*, 373, 1013
- Dale, D. A., Helou, G., Silbermann, N. A., Contursi, A., Malhotra, S., Rubin, R. H. 1999, *AJ*, 118, 2055
- DeGioia-Eastwood, K., Grasdalen, G. L., Strom, S. E. & Strom, K. M. 1984, *ApJ*, 278, 564
- Dettmar, R.-J. 1990, *A&A*, 232, L15
- Deul, E. R., van der Hulst, J. M. 1987, *A&A Suppl.*, 67, 509
- Deul, E. R., den Hartog, R. H. 1990, *A&A*, 229, 362
- van Dyk, S. D., Hyman, S. D., Sramek, R. A., Weiler, K. W. 1994, *IAU Circ.*, 6045, 2
- Ehlerová, S., Palouš, J. 2005, *A&A* in press
- Elmegreen, B. G. & Lada, C. J. 1977, *ApJ*, 214, 725
- Elmegreen, D. M., Chromey, F. R. & Santos, M. 1998, *AJ*, 1221
- Ferguson, A. M. N., Gallagher, J. S., Wyse, Rosemary F. G. 1998, *AJ*, 116, 673
- Ferguson, A. M. N., Irwin, M. J., Ibata, R. A., Lewis, G. F., Tanvir, N. R 2002, *AJ*, 124, 145
- Field, G. B., Goldsmith, D. W. & Habing, H. J. 1969, *ApJ*, 155, 149
- Forbes, D. 2000, *AJ*, 120,2594
- Fraternali, F. 2001, Ph.D. thesis, University of Bologna
- Fraternali, F., Oosterloo, T. A., Sancisi, R., van Moorsel, G. 2001, *ApJ*, 562, L47
- Fraternali, F., van Moorsel, G., Sancisi, R., Oosterloo, T. A. 2002, *AJ*, 123, 3124
- Fraternali, F., Oosterloo, T. A., Sancisi, R. 2004, *A&A*, 424, 485
- Fraternali, F. 2004, *IAUS*, 217, 44
- Fraternali, F., Oosterloo, T. A., Sancisi, R., Swaters, R. A. 2005, *Extra-planar Gas*, R. Braun, *ASP Conf. Series*, 331, 239
- Fraternali, F., Binney, J. J. 2006, *MNRAS*, 366, 449
- García Ruiz, I., Sancisi, R., Kuijken, K. 2002, *A&A*, 394, 769
- Gardiner, L. T. 1999, in *Astronomical Society of the Pacific Conference Series N-body Simulations of the Magellanic Stream.*, 292
- Gardiner, L. T., Noguchi M., 1996, *MNRAS*, 278, 191
- Gerritsen, J. P. E., Icke, V. 1997, *A&A*, 325, 972
- Gordon, K. J., Remage, N. H., Roberts, M. S. 1968, *ApJ*, 154, 845
- Hatzidimitriou, D., Stanimirovic, S., Maragoudaki, F., Staveley-Smith, L., Dapergolas, A. & Bratsolis, E. 2005, *MNRAS*, in press

- Heckman, T. M., Armus, L. & Miley, G. K. 1990, *ApJ Suppl.*, 74, 833
- Helou, G., Soifer, B. T. & Rowan-Robinson, M. R. 1985, *ApJ*, 298, L7
- Heiles, C. 1979, *AJ*, 229, 533
- Heiles, C. 1984, *ApJS*, 55, 585
- Heiles, C. 1990, *ApJ*, 354, 483
- Hibbard J. E., Mihos, J. C. 1995, *AJ*, 110, 140
- Hippelein, H., Haas, M., Tuffs, R. J., Lemke, D., Stickel, M., Klaas, U., Völk, H. J. 2003, *A&A*, 407, 137
- Högbom 1974, *A&A Suppl.*, 15, 417
- Hoopes, C. G., Walterbos, R. A. M. & Greenawalt, B.E. 1996, *AJ*, 112, 1429
- van der Hulst, J. M., & Sancisi, R. 1988, *AJ*, 95, 1354
- van der Hulst, J. M., Terlouw, J. P., Begeman, K., Zwitter, W. & Roelfsema, P. R. 1992, in *ASP Conf. Ser. 25, Astronomical Data Analysis Software and Systems I*, ed. D.M. Worall, C. Biemesderfer & J. Barnes (San Francisco: ASP), 131
- Van der Hulst, J. M. 1996, in *ASP Conf. Ser. 106, The Minnesota lectures on extragalactic neutral hydrogen*, ed. Evan D. Skillman, 47
- van der Hulst, J. M., Sancisi, R. 2005, in *Astronomical Society of the Pacific Conference Series "Extra-planar Gas"*, edited by R. Braun, Vol. 331, 139
- Ibata, R. A., Gilmore, G. & Irwin, M. J. 1994, *Nature*, 370, 194
- Ibata, R., Irwin, M., Lewis, G. F., Solte, A. 2001, *ApJ*, 547, L133
- Ibata, R., Irwin, M., Lewis, G., Ferguson, A. & Tanvir, N. 2001b, *Nature*, 412, 49
- Jerjen, H., Freeman, K.C., Binggeli, B. 1998, *AJ*, 116, 2873
- Johnston, K. V., Spergel, D. N., Hernquist, L. 1995, *Apj*, 451, 598
- de Jong, T., Klein, U., Wielebinski, R. & Wunderlich, E. 1985, *A&A*, 147, L6
- Kamphuis, J., Sancisi, R., van der Hulst, J. M. 1991, *A&A*, 244, L29
- Kamphuis, J. J., Briggs, F. 1992, *A&A*, 253, 335
- Kamphuis, J. J. 1993, Ph.D. thesis, University of Groningen
- Kamphuis, J. J. & Sancisi, R. 1993, *A&A*, 273, L31
- Karachentsev, I. D., Sharina, M. E. & Huchtmeier, W. K. 2000, *A&A*, 362, 544
- Karachentsev, I.D., Grebel, E.K., Sharina, M.E., Dolphin, A.E., Geisler, D., Guhathakurta, P., Hodge, P.W., Karachentseva, V.E., Sarajedini, A. & Seitzer, P. 2003, *A&A*, 404, 93
- Kennicutt, R. C. 1983, *ApJ*, 272, 54
- Kewley, L. J., Geller, M. J., Jansen, R. A., Dopita, M. A. 2002, *AJ*, 124, 3135
- Kim, S., Dopita, M. A., Staveley-Smith, L. & Bessell, M. S. 1999, *AJ*, 118, 2797
- Koribalski, B., Whiteoak, J.B. & Houghton, S. 1995, *PASA*, 12, 20
- van der Kruit, P. C., Allen, R. J., Rots, A. H., *A&A*, 55, 421
- Van der Kruit, P. C. & Allen, R. J. 1978, *ARAA*, 16, 103
- Lockman, F. J., Pidopryhora, Y. 20055, in *Astronomical Society of the Pacific Conference Series "Extra-planar Gas"*, edited by R. Braun, Vol. 331, 59
- McCray, R., Kafatos, M. 1987, *ApJ*, 317, 90

- Mac Low, M., McCray, R. 1988, *ApJ*, 324, 776
- Malin, D. F., Hadley, B. 1997, *PASA*, 14, 52
- Mathewson, D. S., Cleary, M. N., Murray, J. D. 1974, 190, 291
- Matthews, L. D., Wood, K. 2003, *ApJ*, 593, 721
- McClure-Griffiths, N. M., Dickey, J. M., Gaensler, B. M. & Green, A. J. 2002, *ApJ*, 578, 176
- McClure-Griffiths, N. M., Ford, A., Pisano, D. J., Gibson, B. K., Staveley-Smith, L., Calabretta, M. R., Dedes, L., & Kalberla, P. M. W. 2006, *ApJ*, 638, 196
- McKee, C. F., Ostriker, J. P. 1977, *ApJ*, 218, 148
- Meier, D. S., Turner, J. L. 2004, *AJ*, 127, 2069
- Moore, B., Davis, M. 1994, *MNRAS*, 270, 209
- Moshir, M. et al. 1990, *IRAS Faint Source Catalogue*, version 2.0
- Muller, C. A., Oort, J. H., Raimond, E. 1963, *C.R. Acad. Sci. Paris*, 257, 1661
- Murai, T., Fujimoto, M. 1980, *PASJ*, 32, 581
- Murphy, E. J., Braun, R., Helou, G., Armus, L., Kenney, J. D. P., Gordon, K. D., Bendo, G. J., Dale, D. A., Walter, F., Oosterloo, T. A., Kennicutt, R. C., Calzetti, D., Cannon, J. M., Draine, B. T., Engelbracht, C. W., Hollenbach, D. J., Jarrett, T. H., Kewley, L. J., Leitherer, C., Li, A., Meyer, M. J., Regan, M. W., Rieke, G. H., Rieke, M. J., Roussel, H., Sheth, K., Smith, J. D. T., Thornley, M. D. 2006, *ApJ*, 638, 157
- Oosterloo, T. A., Fraternali, F., Swaters, R. A., Sancisi, R. 2006, in preparation
- Oort, J. H. 1970, *A&A*, 7, 381
- Oosterloo, T. A., van Gorkom, J. H. 2005, *A&A*, 437, 19
- Palouš, J., Franco, J. & Tenorio-Tagle, G. 1990, 227, 175
- Pelupessy, F. I. 2005, Ph.D. Thesis, Univ. of Leiden
- Pence, W. D. 1980, *ApJ*, 239, 54
- Pietsch, W., Vogler, A., Klein, U. & Zinnecker, H. 2000, *A&A*, 360, 24
- Pietsch, W., Roberts, T. P., Sako, M., Freyberg, M. J., Read, A. M., Borozdin, K. N., Branduardi-Raymont, G., Cappi, M., Ehle, M., Ferrando, P., Kahn, S. M., Ponman, T. J., Ptak, A., Shirey, R. E., Ward, M. 2001, *A&A*, 365, L174
- Pisano, D.J. & Wilcots, E. M. 2000, *MNRAS*, 319, 821
- Popping, A., Noordermeer, E., Boomsma, R., van der Hulst, J. M. 2005, in preparation
- Puche, D., Westpfahl, D., Brinks, E. & Roy, J.-R. 1992, *AJ*, 103, 1841
- Puche, D., Carignan, C. & van Gorkom, J. H. 1991, *AJ*, 101, 456
- Putman, M. E., Gibson, B. K., Staveley-Smith, L., Banks, G., Barnes, D. G., Bhatla, R., Disney, M. J., Ekers, R. D., Freeman, K., Haynes, R. F., Henning, P., Jerjen, H., Kilborn, V., Koribalski, B., Knezek, P., Malin, D. F., Mould, J. R. 1998, *Nature*, 394, 752
- Radovich, M., Kahanpää, J., & Lemke, D. 2001, *A&A*, 377, 73
- Rand, R. J. 1998, *PASA*, 15, 106
- Reynolds, R. J., Sterling, N. C., Haffner, L. M. 2001, *ApJ*, 558, L101
- Rhode, K. L., Salzer, J. J., Westpfahl, D. J., Radice, L. A. 1999, *AJ*, 118, 323

-
- Rice, W., Lonsdale, C. J., Soifer, B. T., Neugebauer, G., Koplan, E. L., Lloyd, L. A., de Jong, T., Habing, H. J. 1988, *ApJ Suppl.*, 68, 91
- Rice, W. 1993, *AJ*, 105, 67
- Rogstad, D. H., Shostak, G. S., Rost, A. H. 1973, *A&A*, 22, 111
- Rosen, A., Bregman, J. N. 1995, *ApJ*, 440, 634
- Rots, A. H., Bosma, A., van der Hulst, J. M., Athanassoula, E. & Crane, P. C. 1990, 100, 387
- Sancisi, R. & Allen, R. J. 1979, *A&A*, 74, 73
- Sancisi, R. 2001, *ASPC*, 240, 241
- Sandage, A., Tammann, G. A. 1974, *ApJ*, 190, 525
- Sandage, A., Tammann, G. A. 1974, *ApJ*, 194, 223
- Sandage, A., Tammann, G. A. 1974, *ApJ*, 194, 559
- Sault, R. J., Teuben, P. J., Wright, M. C. H. 1995, in *ASP Conf. Ser. 77, Astronomical Data Analysis Software and Systems IV*, ed. R. A. Shaw, H. E. Payne & J. J. E. Hayes (San Francisco: ASP), 433
- Sauty, S., Gerin, M. & Casoli, F. 1998, *A&A*, 339, 19
- Schaap, W. E., Sancisi, R., Swaters, R. A. 2000, *A&A*, 356, L49
- Schlegel, E. M., Holt, S. S., Petre, R. 2003, *ApJ*, 598, 982
- Schoenmakers, R. H. M., Franx, M. & de Zeeuw, P. T. 1997, *MNRAS*, 292, 349
- Shapiro, P. R., Field, G. B. 1976, *ApJ*, 205, 762
- Sicking, F. J. 1997, Ph.D. thesis, Univ. Groningen
- Silich, S. A., Franco, J., Palouš J. & tenorio-Tagle, G. 1996, *ApJ*, 468, 722
- Spitzer, L. Jr. 1956, *ApJ*, 124, 20
- Spitzer, L. Jr. 1978, *Physical Processes in the Interstellar Medium* (New Ork: Wiley Interscience)
- Stanimirović, S., Staveley-Smith, L., Dickey, J. M., Sault, R. J. & Snowden, S. L. 1999, 302, 417
- Strickland, D. K., Heckman T. M., Weaver, K. A., Hoopes, C. G., Dahlem, M. 2002, *ApJ*, 568, 689
- Swaters, R. A., Sancisi, R., van der Hulst, J. M. 1997, *ApJ*, 491, 140
- Swaters, R. A. 1999, Ph.D. thesis, University of Groningen
- Tacconi, L. J., Young, J. S. 1986, *ApJ*, 308, 600
- Tammann, G. A. 1977, *Ann. N.Y. Acad. Sci.*, 302, 61
- Tenorio-Tagle, G. 1981, *A&A*, 94, 338
- Tenorio-Tagle, G., Bodenheimer, P., Rozyczka, M., Franco, J. 1986, *A&A*, 170, 107
- Tenorio-Tagle, G., Franco, J., Bodenheimer, P., Rozyczka, M. 1987, *A&A*, 179, 219
- Tenorio-Tagle, G., Bodenheimer, P. 1988, *ARA&A*, 26 145
- Thilker, D. A., Braun, R. & Walterbos, R. M. 1998, *A&A*, 332, 429
- Tomisaka, K., Ikeuchi, S. 1986, *PASJ*, 38, 697
- Tripp, T. M., Wakker, B. P., Jenkins, E. B., Bower, C. W., Danks, A. C., Green, R. F., Heap, S. R., Joseph, C. L., Kaiser, M. E., Linsky, J. L., Woodgate, B. E. 2003, *AJ*, 125,

3122

- Ulvestad, J. S. 2000, *AJ*, 120, 278
- de Vaucouleurs, G., de Vaucouleurs, A., Corwin, H. C. 1976, *Second Reference Catalogue of Bright Galaxies* (Austin: University of Texas Press)
- Verheijen, M. A. W. 1997, Ph.D. thesis, Univ. Groningen
- Vogelaar, M. G. R. & Terlouw J. P. 2001, in *ASP Conf. Ser. 238, Astronomical Data Analysis Software and Systems X*, ed. F. R. Harnden, Jr., F. A. Primini & H. E. Payne (San Francisco: ASP), 358
- Vorobyov, E. I. & Basu, S. 2005, *A&A*, 431, 451
- Yoshizawa, A. M., Noguchi, M. 2003, *MNRAS*, 339, 1135
- Wakker, B. P. 1990, PhD thesis, University of Groningen
- Wakker, B. P. 1991, *A&A*, 250, 499
- Wakker, B. P. 2005, in *High-Velocity Clouds*, ed. H. van Woerden, B.P. Wakker, U.J. Schwarz & K.S. de Boer (Dordrecht, Kluwer Academic Publishers), 25
- Wakker, B. P., Schwarz, U.J. 1988, *A&A*, 200, 312
- Wakker, B. P., van Woerden, H. 1991, *A&A*, 250, 509
- Wakker & Van Woerden 1997, *ARA&A*, 35, 217
- Wakker, B. P., Howk, J. C., Savage, B. D., van Woerden, H., Tufte, S. L., Schwarz, U. J., Benjamin, R., Reynolds, R. J., Peletier, R. F., Kalberla, P. M. W. 1999, *Nature*, 402, 388
- Walker, I. R., Mihos, J. C., Hernquist, L. 1996, *ApJ*, 460, 121
- Walsh, W., Beck, R., Thuma, G., Weiss, A., Wielebinski, R. & Dumke, M. 2002, *A&A*, 388, 7
- Walter, F. & Brinks, E. 1999, *AJ*, 118, 273
- Wilcots, E. M., Miller, B. W. 1998, *AJ*, 116, 2363
- Van Woerden, H., Wakker, B. P., Schwarz, U. J. & De Boer, K. S. 2005, *High-Velocity Clouds* (Dordrecht, Kluwer Academic Publishers)
- Van Woerden, H., Wakker, B. P. 2005, in *High-Velocity Clouds*, ed. H. van Woerden, B.P. Wakker, U.J. Schwarz & K.S. de Boer (Dordrecht, Kluwer Academic Publishers), 195
- Wunderlich, E., Wielebinski, R. & Klein, U. 1987, *A&AS*, 69, 487
- Young, L. S., Allen, L., Kenney, J. D. P., Lesser, A., Rownd, B. 1996, *AJ*, 112, 1903
- Yun, M. S., Ho, P. T. P., Lo, K. Y. 1994, *Nature*, 372, 530
- Zaritsky, D., Rix, H.,-W. 1997, *ApJ*, 477, 118