CCD Astroimaging Information
From Observational Astronomy Web Site by David Haworth
http://www.stargazing.net/david/

Websites Referred to in David Haworth’s ITS 2005 Presentation

- Astrophotography Articles, Jerry Lodriguss
  - http://www.astropix.com/HTML/1_ASTROP/TOC_AP.HTM
- Comparative Test Canon 10D/Nikon D70, Christian Buil
  - http://astrosurf.com/buil/d70v10d/eval.htm
- Canon Astronomy version EOS 20Da
- Canon Astrophotography
- Deep-space Imaging with the Canon EOS 20Da
- Spectral Response of DSLR Cameras, Dennis diCicco
  - http://www.pbase.com/terrylovejoy/image/29755088

2005 Astroimaging Books

- Digital Astrophotography, The State of the Art, David Ratledge
  - Chapters by different authors, available in the fall
  - http://www.deep-sky.co.uk/pubs.htm
- Introduction to Digital Astrophotography, Robert Reeves
  - Available now, 412 pages
  - Willmann-Bell, Inc. http://www.willbell.com
  - Available this summer, 712 pages
  - Includes Astronomical Image Processing for Windows (AIP4WIN) V2.0
  - Willmann-Bell, Inc. http://www.willbell.com

2005 Astroimaging Magazine Articles

  - 2005 August, Image like a pro
  - 2005 June, Easy imaging for everyone
  - 2005 May, Small eyes on the sky
  - 2005 April, Sharper photos with film
  - 2005 May/June, The DSLR Revolution in Astrophotography
  - 2005 March/April, Digital SLR Cameras: A Revolution in Astrophotography
  - 2005 August, Narrowband Imaging in Color
  - 2005 July, Capturing the Colors of the Moon
  - 2005 June, AVA’s Atmospheric Dispersion Corrector
  - 2005 May, Hybrid Composite Imaging
  - 2005 April, I Pursuit of the Ultimate Image
  - 2005 March, Resurrecting an Old Astrophoto
  - 2005 January, A New Way of Looking at the Moon
Astroimaging Books

- *A Practical Guide to CCD Astronomy*, Patrick Martinez and Alain Klotz, 243 pages
  - A guide to choosing and using CCD cameras for amateur astronomers
- *Amateur Telescope Making*, Stephen F. Tonkin
  - Chapter 14 is on building and using a Cookbook CCD Camera by Al Kelly, 14 pages
  - 12 chapters by different authors about their CCD experiences.
- *The Art and Science of CCD Astronomy*, David Ratlidge,
  - Chapters by different authors about their imaging experiences.
- *Astronomical Equipment for Amateurs*, Martin Mobberley
  - Chapter 8 is on electronic imaging, 43 pages
- *Astrophotography for the Amateur*, 2nd Ed., Michael A. Covington
  - Chapter 12 is on Computer Image Enhancement, 26 pages & Chapter 13 is on CCD Imaging, 16 pages
  - An intermediate to advanced understanding of CCD camera design, operation and imaging processing.
- *The CCD Camera Cookbook*, Richard Berry, Veikko Kanto & John Munger, 176 pages
  - This book shows you how to build your own CCD camera.
- *Choosing and Using a CCD Camera*, Richard Berry, 96 pages
  - Book includes Quikpix software for PCs
- *Deep Space CCD Atlas: North* (264 pages) and *South* books by John Vickers P.O.B. 1292 Duxbury, MA 02331
  - A good reference of CCD images to verify your objects
- *Electronic Imaging in Astronomy - Detectors and Instrumentation*, Ian S. McLean, 472 pages
  - CCDs and other imaging devices used in professional observatories
  - Covers the fundamental requirements for obtaining good CCD images.
  - A very good book on image processing & it includes *Astronomical Image Processing for Windows* (AIP4WIN)
  - Good intermediate introduction to CCD imaging.
- *Introduction to Astronomical Image Processing*, Richard Berry, 96 pages
  - A beginners’ guide to CCD image enhancement for PCs and basics on CCD imaging processing, includes Astronomical Image Processing (AIP245) software
- *The New CCD Astronomy*, Ron Wodaski, 476 pages
  - A very good book to start learning about CCD astronomy
- *Splendors of the Universe: A Practical Guide to Photographing the Night Sky*, Terence Dickinson, Jack Newton, Terrence Dickinson
  - Covers various aspects of astrophotography including CCD imaging
  - Part 4: More Power to You, 17 pages
- *Video Astronomy*, Steve Massey, Thomas A. Dobbins & Eric J. Douglass, 200 pages
  - A beginners’ guide to using video

Book Stores

<table>
<thead>
<tr>
<th>Software</th>
<th>Source</th>
<th>URL</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>AstroAlign</td>
<td>Carsten Arnholm</td>
<td><a href="http://home.online.no/~arnholm/astro/software/astroalign/AstroAlign.htm">http://home.online.no/~arnholm/astro/software/astroalign/AstroAlign.htm</a></td>
<td>Image processing</td>
</tr>
<tr>
<td>Astroart 3.0</td>
<td>MSB Software</td>
<td><a href="http://www.msb-astroart.com/">http://www.msb-astroart.com/</a></td>
<td>Image processing &amp; camera control</td>
</tr>
<tr>
<td>AstroPIX: CB245, Multi245 &amp; Qcolor</td>
<td>Richard Berry</td>
<td><a href="http://www.wvi.com/~rberry/astropix/astropix.htm">http://www.wvi.com/~rberry/astropix/astropix.htm</a></td>
<td>Image processing for the Cookbook CCD cameras</td>
</tr>
<tr>
<td>AstroStack 2.1.1</td>
<td>Robert J. Stekelenburg</td>
<td><a href="http://www.astrostack.com/">http://www.astrostack.com/</a></td>
<td>Stacking images</td>
</tr>
<tr>
<td>AVI2BMP</td>
<td></td>
<td><a href="http://avi2bmp.free.fr/telechar.htm">http://avi2bmp.free.fr/telechar.htm</a></td>
<td>Stacking images</td>
</tr>
<tr>
<td>AVIDark</td>
<td></td>
<td><a href="http://www.geocities.com/jgroveuk/AVIDark.htm">http://www.geocities.com/jgroveuk/AVIDark.htm</a></td>
<td>AVI image pre-processing program</td>
</tr>
<tr>
<td>CCDSoft 5.00.077</td>
<td>Software Bisque</td>
<td><a href="http://www.bisque.com/">http://www.bisque.com/</a></td>
<td>Image processing &amp; camera control</td>
</tr>
<tr>
<td>ImagesPlus 1.71</td>
<td>MLUnsold Digital Imaging</td>
<td><a href="http://www.mlunsold.com">http://www.mlunsold.com</a></td>
<td>Image processing</td>
</tr>
<tr>
<td>iMerge</td>
<td></td>
<td><a href="http://www.geocities.com/jgroveuk/iMerge.html">http://www.geocities.com/jgroveuk/iMerge.html</a></td>
<td>Image-stacking and Mosaic</td>
</tr>
<tr>
<td>IRAF 2.12.1</td>
<td>IRAF Programming Group &amp; NOAO</td>
<td><a href="http://iraf.noao.edu/">http://iraf.noao.edu/</a></td>
<td>Free image processing for UNIX &amp; LINUX</td>
</tr>
<tr>
<td>K3CCD Tools</td>
<td>Peter Katreniak</td>
<td><a href="http://www.pk3.org/Astro">http://www.pk3.org/Astro</a></td>
<td>Camera control, stacking &amp; image processing</td>
</tr>
<tr>
<td>Local Adaptive Unsharp Masking (LAUM) 2.0.0.65</td>
<td>Balthasar Indermuelhe</td>
<td><a href="http://www.inside.net/plugin">http://www.inside.net/plugin</a> <a href="http://www.inside.net/plugin/laum.htm">http://www.inside.net/plugin/laum.htm</a></td>
<td>Plugin for MIRA, Paint Shop Pro &amp; Photoshop</td>
</tr>
<tr>
<td>MaxIm DL 3.21</td>
<td>Diffraction Limited</td>
<td><a href="http://www.cyanogen.com">http://www.cyanogen.com</a></td>
<td>Image processing &amp; camera control</td>
</tr>
<tr>
<td>MIRA Pro &amp; MIRA AP 7</td>
<td>Axiom Research</td>
<td><a href="http://www.axres.com/">http://www.axres.com/</a></td>
<td>Image processing &amp; camera control</td>
</tr>
<tr>
<td>QMiPS32 1.81</td>
<td>Christian Buil</td>
<td><a href="http://www.astrosurf.com/qm32/">http://www.astrosurf.com/qm32/</a></td>
<td>Image processing</td>
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<tr>
<td>Sigma</td>
<td>Ray Gralak</td>
<td><a href="http://www.gralak.com/Sigma/">http://www.gralak.com/Sigma/</a></td>
<td>Image combining</td>
</tr>
<tr>
<td>SigmaReject</td>
<td>Russell Croman</td>
<td><a href="http://www.rc-astro.com/resources/sigma_reject.html">http://www.rc-astro.com/resources/sigma_reject.html</a></td>
<td>Image combining plugin</td>
</tr>
<tr>
<td>StellaImage3 &amp; 4</td>
<td>AstroArts</td>
<td><a href="http://www.astroarts.co.jp/index.html">http://www.astroarts.co.jp/index.html</a></td>
<td>Image processing</td>
</tr>
<tr>
<td>RegiStar</td>
<td>Auriga Imaging</td>
<td><a href="http://aurigaimaging.com">http://aurigaimaging.com</a></td>
<td>Registration software</td>
</tr>
<tr>
<td>Registax 2.1.1</td>
<td>Cor Berrevoets</td>
<td><a href="http://aberrator.astronomy.net/registax/">http://aberrator.astronomy.net/registax/</a></td>
<td>Registration software</td>
</tr>
<tr>
<td>PictorView</td>
<td>Meade Instruments</td>
<td><a href="http://www.meade.com/">http://www.meade.com/</a></td>
<td>Image processing &amp; Pictor camera control</td>
</tr>
<tr>
<td>SuperFix &amp; MegaFix</td>
<td>Bruce Johnston Computing</td>
<td><a href="http://members.aol.com/BJohns7764/">http://members.aol.com/BJohns7764/</a></td>
<td>Image processing</td>
</tr>
<tr>
<td>Win245</td>
<td>Intricate Micro Systems</td>
<td><a href="http://www.intricate-ms.com/">http://www.intricate-ms.com/</a></td>
<td>Cookbook CB245 control</td>
</tr>
</tbody>
</table>
Photo Editing Software Commonly Used for Astroimaging

<table>
<thead>
<tr>
<th>Software</th>
<th>Source</th>
<th>URL</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>IrfanView</td>
<td>Irfan Skiljan</td>
<td><a href="http://irfanview.tuwien.ac.at/">http://irfanview.tuwien.ac.at/</a></td>
<td>Graphics program (free)</td>
</tr>
<tr>
<td>Paint Shop Pro 8.1</td>
<td>JASC</td>
<td><a href="http://www.jasc.com">http://www.jasc.com</a></td>
<td>Graphics program</td>
</tr>
<tr>
<td>Photoshop 7.0.1</td>
<td>Adobe</td>
<td><a href="http://www.adobe.com">http://www.adobe.com</a></td>
<td>High end graphics program</td>
</tr>
<tr>
<td>Picture Window 3.5</td>
<td>Digital Light &amp; Color</td>
<td><a href="http://www.dl-c.com">http://www.dl-c.com</a></td>
<td>Full 16 bit editing, many application notes on website</td>
</tr>
</tbody>
</table>

Commercial CCD & Video Cameras for Astroimaging

<table>
<thead>
<tr>
<th>Company</th>
<th>URL</th>
<th>Cameras</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apogee Instruments</td>
<td><a href="http://www.ccd.com/">http://www.ccd.com/</a></td>
<td>AP Series</td>
<td>CCD cameras</td>
</tr>
<tr>
<td>Finger Lakes Instrumentation</td>
<td><a href="http://www.fli-cam.com/">http://www.fli-cam.com/</a></td>
<td>MaxCam, IMG Series</td>
<td>CCD cameras</td>
</tr>
<tr>
<td>Meade Instruments</td>
<td><a href="http://www.meade.com/">http://www.meade.com/</a></td>
<td>Pictor Series: 201XT, 208XT, 216XT, 416XTE, 1616XTE</td>
<td>CCD cameras</td>
</tr>
<tr>
<td>Santa Barbara Instrument Group (SBIG)</td>
<td><a href="http://www.sbig.com">http://www.sbig.com</a></td>
<td>STV, ST237A, ST5C, ST7E, ST8E, ST9, ST10</td>
<td>CCD &amp; video rate cameras</td>
</tr>
</tbody>
</table>

Build Your Own CCD Camera for Astroimaging

<table>
<thead>
<tr>
<th>Camera</th>
<th>URL</th>
<th>Notes</th>
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<tbody>
<tr>
<td>Cookbook CB245 &amp; CB211</td>
<td><a href="http://www.wvi.com/~rberry/cookbook/cookbook.htm">http://www.wvi.com/~rberry/cookbook/cookbook.htm</a></td>
<td>CB245 is very popular, uses TI-245</td>
</tr>
<tr>
<td>Genesis (Audine clone)</td>
<td><a href="http://www.genesis16.net">http://www.genesis16.net</a></td>
<td>Canada/USA version of the Audine CCD camera uses KAF-0401e/-1601e</td>
</tr>
</tbody>
</table>

Astroimaging Accessories

- Flip mirrors & optical filters
- Optec, Inc., http://www.optecinc.com
- Telecompressor lens for CCD cameras, PC-controllable filter slides/filter wheels and pre-viewer equipment
- High end CCD IC manufacturer

CCD Astronomy Magazine

- CCD Astronomy was published from spring 1994 to winter 1997 with four issues per year.
- Obtain the back issues of CCD Astronomy from Sky Publishing Corp., http://skyandtelescope.com/
- Especially summer 1995 for the article Starting Out Right by Douglas George.
  - This is a must to read article for anyone starting in CCD imaging.

Astroimaging Magazine Articles

- Amateur Telescope Making Journal, This magazine is not being published in any more.
  - Issue #14, The "What Next!" Crisis in CCD Imaging by Richard Berry
  - Issue #13, Telescopes for CCD Imaging (Revisited) by Richard Berry
  - Issue #12, Noise in CCD Cameras by Richard Berry
  - Issue #11, CCD Imaging In Color by Richard Berry
  - Issue #8, Imaging on a Mountaintop - Telescopes for CCD Imaging Part IV by Richard Berry
  - Issue #7, Telescopes for CCD Imaging Part III by Richard Berry
  - Issue #6, Telescopes for CCD Imaging Part II by Richard Berry
  - Issue #5, Telescopes for CCD Imaging by Richard Berry
  - 1999 5th Edition, From Darkroom to Digital
  - 2005 August, Image like a pro

Copyright 1997-2005 David Haworth V 3.7 Email David.A.Haworth@tek.com for changes 7/22/2005 4
• 2005 June, Easy imaging for everyone
• 2005 May, Small eyes on the sky
• 2005 April, Sharper photos with film
• 2004 September, Shooting the sky
• 2004 September, Cannon 10D digital camera
• 2004 August, Extreme imaging
• 2004 June, Amateur CCD discoveries
• 2004 May, All-sky fireball network
• 2004 April, When Astrophotos go bad
• 2004 March, Capturing aurorae
• 2004 February, The 25 greatest Astrophotos in history
• 2004 February, CCD Images at their best
• 2003 December, Imaging with webcams
• 2003 November, A night with the Feras
• 2003 October, Simple telescope shooting
• 2003 September, Basic CCD techniques
• 2003 August, Imaging the Red Planet
• 2003 July, Simple skyshooting
• 2003 June, Imaging the Sun in Ha
• 2003 May, The STV: Video camera, CCD, or autoguider?
• 2003 March, Testing a CCD trio
• 2003 January, Join the Hunt (for extrasolar planets)
• 2002 September, Capture the Sky from Kitt Peak
• 2002 July, Over the Rainbow
• 2002 May, Catch an Extrasolar Planet
• 2002 March, Trichannel Astrophotography
• 2002 March, Imaging from the ‘Burgs
• 2002 February, Catching the Light Digitally Enhancing Your Astrophotos
• 2001 February, Sharpen Your Images
• 2001 January, Sunsational Photography
• 2000 September, Exploring the Digital Darkroom
• 2000 April, In Cyber Color
• 2000 March, How to Record the Digital Sky
• 2000 February, Capture the Sky on a CCD
• 1999 September, Adaptive Optics Meet CCDs
• 1998 April, CCD Cameras Get Savvy, ST-7 & ST-8
• 1997 February, In Search of Faint Galaxies
• 1996 December, Piece-by-Piece Astrophotography
• 1996 March, Beyond the Visible with CCDs
• 1995 September, Tune Up Your Telescope for CCD
• 1995 February, Catching Comets with a CCD
• 1994 September, Seeing & Believing (Don Parker)
• 1994 August, Working in the Digital Darkroom
• 1993 October, Over the Edge
• 1993 April, The Digital Darkroom, "Printing" the Image
• 1993 March, The Digital Darkroom, "Developing" the Image
• 1992 February, Celestial Seeing: Three Imaging Technologies
• 1991 August, Snapping the Planets Electronically

• 2005 April, Digital Drawing
• 2004 February, CCD Cameras
• 2004 February, The world of CCDs
• 2004 February, Planetary imaging with webcams
• 2004 February, Amateurs on the cutting edge
• 2004 January, Putting the art into astrophotography
• 2002 March, Amateur Astronomical Spectroscopy
• 2000 March, At the Sharp end of Amateur Technology
• 1999 May, Recording an Eclipse on Video
• 1999 March, The Digital Age
• 1998 December, Finding the Position
• 1998 September, A CCD Overview
• 1998 June, CCD Sky: Supernova Patrol
• 1998 May, Ultimate Observing, Tom Puckett Observatory
• 1998 March, The Celestron Fastar SCT
• 1998 March, CCD Sky, General Tips
• 1998 January, Observations from Portugal, Pedro Re CCD setup
• 1997 December, CCD Sky: Processing Images
• 1997 November, An Eyepiece Camera - MX5
• 1997 September, CCD Sky: Finding Faint Objects
• 1997 June, CCDs - The Next Quantum Leap
• 1997 March, CCD Sky, Celestron Pixcel 255 Camera
• 1997 March, CD-ROM CCD Images
• 1996 December, Planetary Imager (Don Parker)
• 1996 September, CCD Time Machines
• 1996 June, Terry Platt Interview (inventor of the Starlight Xpress CCD cameras)
• 1995 October, From Camera and Film to CCD and Disk
• 1995 September, Stars in CCD Color
• 1995 June, By the Light of a Pixelled Moon
• 1995 April, Incredible Skies Captured by CCD

  • 2003 Silver halide and electronic chips: imaging the cosmos

  • 2005 May/June, The DSLR Revolution in Astrophotography
  • 2005 March/April, Digital SLR Cameras: A Revolution in Astrophotography
  • 2004 March/April, The Acuter Digital Imager
  • 2000 September/October, Astro-Imaging With a Commercial Digital Camera

  • 2005 August, Narrowband Imaging in Color
  • 2005 July, Capturing the Colors of the Moon
  • 2005 June, AVA’s Atmospheric Dispersion Corrector
  • 2005 May, Hybrid Composite Imaging
  • 2005 April, I Pursuit of the Ultimate Image
  • 2005 March, Resurrecting an Old Astrophoto
  • 2005 January, A New Way of Looking at the Moon
  • 2004 October, Stella Cam: II Taking Video into the Deep Sky
  • 2004 October, How to Capture October’s Lunar Eclipse
  • 2004 September, SLR Camera Adapters
  • 2004 September, Lunar Mosaics Made Easy
  • 2004 July, Channel-Surfing to Better Solar Images
  • 2004 July, King of the Chips: SBIG’s STL-11000M
  • 2004 June, Astro Imaging with Digital SLR Cameras
  • 2004 May, Photographing the Transit of Venus
  • 2004 April, Processing Webcam Images with RegiStax
  • 2004 March, Capturing Star Trails with a Digital Camera
  • 2004 January, Deep-Sky Imaging with Webcams
  • 2003 December, Deep-Sky Imaging with Integrating Video Cameras
  • 2003 December, Akira Inaka’s 3-D Universe
  • 2003 December, The New Face of Planetary Astronomy
  • 2003 November, As the World Turns (Star Trails)
  • 2003 September, Get Ultrasharp Planetary Images with Your CCD Camera
  • 2003 August, Creating High-Resolution Color CCD Mosaics with Photoshop
  • 2003 July, Getting Star and Nebula Colors Right in CCD Imaging
  • 2003 June, Shooting the Planets with Webcams
• 1996 July, Test Report: SBIG’s ST-7 Camera
• 1995 August, Backyard Astronomy: Guiding for Sky Photography
• 1994 April, Image Processing in Astronomy
• 1993 April, An Astrophotographer’s Dream Home (Jack Newton)
• 1993 February, The Limiting Magnitude of a CCD Camera
• 1991 March, Test Report: An advanced CCD imaging camera for amateurs (Lynxx-PC Plus)
• 1990 October, Camcorder Assist for Planetary Observers
• 1990 September, Test Report: A Versatile CCD for Amateurs (ST-4)

• Sky & Space Magazine, Australia Magazine +61 2 9369 3344
• 1997 June, Technical Tips - LunaCam I and II
• 1997 February, Test Report: SBIG ST-7 by Ted Dobosz

• Telescopes & Camcorder, A Match Made in Heaven

• 1998 June, Off-The –Shelf Software Provides Astronomy Researchers with Deblurred Images
• Back issues of Observatory Techniques Magazine, (605) 226-1078, Email: otm@midco.net. This magazine is not being published in any more. Issues 1 - 23 were published and had information on CCD imaging.

CCD Astroimaging Conferences and Organizations
• AstroImage conferences by the Orange County Astronomers, http://www.chapman.edu/oca/special.html
• Transitsearch.org, discovering transit planets orbiting stars, http://www.transitsearch.org/index.htm
• Center for Backyard Astrophysics, http://cba.phys.columbia.edu/

CCD Astroimaging Web Articles
• Astronomy magazine articles online, http://www.astronomy.com look under Features, Hobby, Photographing the Sky
• Apogee CCD University, http://www.apogee.com/ccdu.html
• Image Processing in Astronomy Education http://www.phy.duke.edu/~kolenetalks/aapt99.html
• A talk presented at the January 1999 meeting of the American Association of Physics Teachers Anaheim, CA
• PixelVision http://www.pv-inc.com/tutorial/tutorial.htm
• How CCDs Challenge Your Telescope, Refractor or Reflector, Tune Up Your Drive, etc.
• Sky Publishing Corp. CCD Astronomy articles are online at http://skyandtelescope.com/howto/imaging/
• U. of Virginia
• History of Photometry in Astronomical Observations http://www.astro.virginia.edu/~afs5z/photometry.html
• Virtual Museum of Measuring Engines http://www.astro.virginia.edu/~afs5z/engines.html

CCD Astroimaging Images on the Web (Also check Astroimaging Astronomer’s Web Sites below)
• CCD Images of Messier Objects, http://zebu.uoregon.edu/messier.html
• ST-4, ST-5, ST-6B and ST-8E images

CCD Astroimaging Astronomer’s Web Sites
• Bartels, Mel http://www.efn.org/~mbartels/
• Berry, Richard http://www.wvi.com/~rberry/
• Author of many books, articles & software programs.
• Co-author of The Handbook of Astronomical Image Processing
• Cookbook CB245 camera information & images
• Boltwood, Paul http://ottawa.rasc.ca/pictures/pboltwood/pboltwood.html
• Brewster, Jon http://astro.brewsters.net
- Meade LX200 and 416XT techniques and images
- Burnell, James http://www.jburnell.com/
- Co-author of *The Handbook of Astronomical Image Processing*
- HX916, Cookbook CB245 camera images, AIP4WIN imaging processing software
- Carrico, Tom http://www.ccdcargo.com/
- SBIG ST-10ME and ST-7E camera images
- Catterall, Adrian Modern Observatory http://www.observatory.demon.co.uk/
  - Hale Eae512, SBIG ST10XME & ST-8E camera images
- Cidadao, Antonio http://www.astrosurf.com/cidadao/
  - Lunar & planetary CCD imaging
- Cole, Michael The Urban Imager http://home.earthlink.net/~urbanimager
  - SBIG ST10XE & ST-7 camera images
- Cook, Lew CCD Photometry http://www.geocities.com/lico/
- Denny, Bob http://dc3.com/
  - ACP Observatory Control Software, PinPoint Astrometric Engine, Astronomer’s Control Panel (ACP1)
- Forsberg, Andy http://pages.prodigy.net/cs-imaging/
- Girard, Jim http://mywebpages.comcast.net/argojg/index.htm
  - SBIG ST-7 camera images
  - RGB Weight Calculator for CCD Astrophotography
- Graham, Glenn Imaging Web Page, http://home1.gte.net/res0jwg1/astronomy
  - SBIG STV, Meade Pictor 216xt & webcam images
- Haworth, David http://www.stargazing.net/david/
  - Fastar SBIG ST-237, Nikon Coolpix 990, ToUcam & Cookbook CB245 camera images
- Hoot, John http://www.chapman.edu/oca/ai99/hoot.htm
  - 1999 AstroImage’99 talk on acquiring time-lapse CCD images and creating animated GIFs
- Johnson, Wayne http://www.chapman.edu/oca/benet/mrgalaxy.htm
  - Web site devoted to Supernova searching, which features a number of CCD images of galaxies and SNe.
- Kelly, Al http://www.ghg.net/akelly
  - Cookbook CB245 camera images
- Kenyon, Dave http://my.starstream.net/davekenyon/ko/
  - SBIG ST-7 camera images and CCD articles
- Krajci, Tom http://members.3lefties.com/krajcit/
  - Photometry, bias frame analysis & images
- Lodriguss, Jerry http://www.astropix.com/INDEX.HTM
  - Film images and digital imaging techniques articles
- Luse, Dennis http://www.stargazing.net/david/DennisLuse/index.htm
  - SBIG ST-7 camera images & tips for imaging with the LX200-ST7
- MacQuarrie, Jeff http://members.aol.com/tchphysics/index.htm
  - Cookbook CB245 camera images
- Mais, Dale http://members.cts.com/cafe/m/mais/
  - Spectroscopy, ST-8
- McLaughlin, William http://willmclaughlin.astrodigitals.com/
  - Author of the *Astronomy Magazine* article *In Search of Faint Galaxies*.
  - Many types of CCD cameras, images & imaging articles
  - Astrovideography
- Okano, Kunihiko http://www.asahi-net.or.jp/~rt6k-okn
  - SBIG ST-7E camera images, DDP image processing techniques and images
- Polakis, Tom http://www.psiaz.com/polakis/
  - SBIG ST-7 camera images & articles
- Puckett, Tim http://www.cometwatch.com
  - Apogee AP7 camera images
- Stephens Robert http://home.earthlink.net/~rdstephens/default.htm
  - SBIG ST-7 camera images
- Trimarchi, Eddie, FITS Plugin for Photoshop http://astrosched.com/
- Tucker, Roy http://gpbhs.home.mindspring.com/gpobs.htm
• Moving Object and Transient Event Search System (MOTESS)
• Vanhoeck, Luc http://ourworld.compuserve.com/homepages/Luc_Vanhoeck/
• SBIG ST-8 camera images
• Vaughn, Chuck http://www.aa6g.org/astro.html
• Astrophotography
• Wallis, Brad http://www.frazmtn.com/~bwallis
• SBIG ST-7 camera images
• Webber, Larry, FocusMax http://users.bsdwebsolutions.com/~larryweber/
• Weichel, Steen http://home.worldonline.dk/~jsrsw/index.htm
• Comparison of the general properties of CCD-cameras for astronomical use & Cookbook CB245 camera images
• West, Rob http://members.aol.com/wmti/ccd.html
• Cookbook CB245 camera images
• Wodaski, Ron http://www.newastro.com/wodaski/
• Many CDD cameras, many articles, reviews & images
• Zerbe, Craig High Resolution Video Imaging http://www.astroimaging.com/

CCD Astroimaging Computer CD-ROMs
  • Includes FOSTER CCD Imaging electronic book.
  • Before and after processed images
  • SkyPro CCD astronomy software demo (V2.04) with over 1,000 sample images taken with a wide range of optical
    instruments.
• The Ultimate CCD Collection, Images by Jack Newton & Don Parker
  • SkyPro CCD astronomy software demo (V2.04) with over 300 color images.
  • Images are provided in 24-bit TIFF, JPEG and 8-bit bitmap files.
  • http://www.bisque.com/
• Deep Sky Imaging Using a CCD, Pedro Re, Kunihiho Okano, Dennis Luse, Rik Blondeel, Michael Purcell, William
  McLaughlin and Luc Vanhoeck, http://www.astrovid.com/CCDBOOKS.HTM

CCD Observing
• New Mexico Skies Guest Observatory, http://www.nmskies.com
• Nightly and Advanced Observing Program at Kitt Peak, the National Optical Astronomy Observatory (NOAO)
  • http://www.noao.edu/outreach/aop
• Observatory, Bed & breakfast, Jack Newton, http://www.jacknewton.com
• AZ & Osoyoos, BC, Canada

CCD Astroimaging Email List Servers
• Yahoo! Groups Top>Science>Astronomy has many groups on CCD cameras & image processing software
  • http://dir.groups.yahoo.com/dir/Science/Astronomy
• CCD list send “subscribe ccd” to Majordomo@listserv.wwa.com

CCD Astroimaging Video Tapes
• Image Processing in Astronomy and other CCD videos, STV Press & Video, Tom Cleveland (800) 493-3005
  • http://www.thinkvideo.com/astronomy.html
  • Try to obtain the ST-4 tape if you are just starting to use the ST-4.

Webcam
• Yahoo Groups QuickCam and Unconventional Imaging Astronomy Group, http://groups.yahoo.com/group/QCUIAG
• Yahoo Groups ToUcam Group, http://groups.yahoo.com/group/ToUcam/
• Haworth, David, Philips PCVC740K ToUcam PRO PC Video Camera
  • http://www.stargazing.net/david/toucam/index.html
• Cidadao, Antonio, Logitech grayscale QuickCam http://www.astrosurf.com/cidadao/quickcam.htm
• QuickCam Vesta Pro Camera, http://members.tripod.com/rjemd/Astronomy.htm
Astroimaging with Standard Digital Cameras

- Bryan, http://webpages.charter.net/bbiggers/DCExperiments/index.html, has an extensive web site on digital cameras.
- Cannon, Denny, http://home.hiwaay.net/~drcannon/cp950/, has lots of information on the Coolpix 950. He describes making a homemade C-8 mount bracket to hold the Coolpix 950 and making a cable release bracket for the Coolpix 950. His Mars, Venus, Moon, Jupiter, Orion, M13, M57, M11, M22, etc. images were taken with a Celestron SP C-8 with Coolpix 950.
- Salzgeber, Philipp, http://www.salzgeber.at/astro/moon/aristarchus2.html, has a Moon image taken with 5.1" Newton telescope with a Coolpix 950 digital camera.

List of Astronomy Lists

- Brad Wallis and Robert Provin ASTRO IMAGING LINKS PAGE http://voltaire.csun.edu/links.html