

Astronomy

An overview of Andor's solutions for Astronomy

The high sensitivity, ultra-low noise performance of Andor Technology's vacuum Thermoelectric (TE) cooled CCD and Electron Multiplying CCD (EMCCD) cameras is well suited to a diversity of demanding astronomy applications.

The industry-leading TE vacuum cooling of the large area iKon CCD range, enable extensive field of view observation, coupled with long exposure times for deep space imaging. EMCCD technology (in the form of Andor's award-winning iXon3 EMCCD Camera range) has proven highly effective for Single Photon Counting, Lucky Astronomy and also Adaptive Optics.

Now, Andor have brought EMCCD single photon sensitivity to the mainstream astronomy community with the new low-cost Luca EMCCD cameras.

26 Sep 2006 Andor Cameras Help Astronomers Find Planets Around Distant Stars

The choice whether or not to opt for EMCCD for astronomy depends very much on your ability to employ longer exposure times to collect enough signal.

The rule of thumb is that if long exposures and slower pixel readout speeds can routinely be employed, such that enough photons can be collected to significantly overcome the read noise floor, then a low-noise, deep-cooled, back illuminated iKon slow-scan camera platform is recommended.

Finally, it should be remembered that EMCCDs can essentially be made single photon sensitive and can even be used to count individual photons!



Two interacting galaxies, M51 (Whirlpool Galaxy) and NGC 5195.
Courtesy of Prof. Andrzej Pigulski, Wroclaw University, Poland