INF5442 – 2014

Mandatory camera exercise to be carried out by Monday 22/9.

1. Plug in camera and run OVTPanther, select rev1A driver
2. Go into 10b LPD RAW output mode, with bypass ISP, 1x gain (analog+digital)
   1. Click on OVDB+Sensor Core+RAW+Long Channel+select setting+chose the only one there
   2. I2C write: 60, 5000=0x01
   3. I2C write: 60, 5001=0x10
   4. I2C write: 60, 5002=0x10
   5. I2C write: 60, 59c9[0]=0x01
   6. I2C write: 60, 5502=0x00
   7. I2C write: 60, 59cc-59xx (set exposure+gain)
   8. I2C write: 60, 59ca=0x02 (enable new exp+gain value)
3. Capture dark frame, store RAW data (remember it will be 8bit pixel values)
4. Import in ImageJ (installed on the PC) w/8bit pixels and click on ‘analysis’ to calculate mean value and std deviation (in SW)
5. Plot response curve in Excel (mean output vs integration time) to check response is linear (straight line)
6. Plot Photon Transfer Curve (PTC) curve in Excel, i.e. variance-vs-mean
   1. Calculate CG from curve slope (in LSB/e-)
   2. Convert to uV/e- using 1LSB=1V/256 and pixel amplifier gain of 0.8