Camera Parameters

Pixel Clock: is a high frequency pulse train that determines when the data lines have valid data. The pixel clock frequency determines the rate pixels are acquired, and the max value changes from device to device, and it affects how much is the maximum fps we can achieve. For better performances, it is recommended to have the pixel clock that produces slightly higher fps from what we actually need.

Exposure Time (Shutter Speed): is the length of time when the film or digital sensor inside the camera is exposed to light.

Automatic Exposure: is an automated digital **camera** system that sets the aperture and shutter speed (Exposure Time), based on the external lighting conditions for the photo. The **camera** measures the light in the frame and then automatically locks the **camera's** settings to ensure proper **exposure.**

Gain: is a digital **camera** setting that controls the amplification of the signal from the **camera** sensor. It should be noted that this amplifies the whole signal, including any associated background noise.

Automatic Gain Control: is basically a from of amplification to the gain where the camera will automatically boost the image received so that objects can be seen more clearly. **(we need this to be disabled for our project, because it messes with the response calibration… pcalib.txt file).**

Gamma: It defines the relationship between a pixel's numerical value and its actual luminance. Without **gamma**, shades captured by digital **cameras** wouldn't appear as they did to our eyes.

Hot Pixel Correction: Every sensor has pixels that do not react linearly to incident light. Often, these pixels appear brighter and especially in dark images they disturb as colored dots. These so-called hot pixels are determined during camera production and saved in the camera. When the hot pixels are determined, camera parameters for general requirements are applied. Nevertheless, new hot pixels may occur due to long exposure times, high gain settings or high operating temperature. And that's what hot pixel correction tries to fix.

Hysteresis: basically, keep on 2.

Temperature: need to keep under 65 degrees.