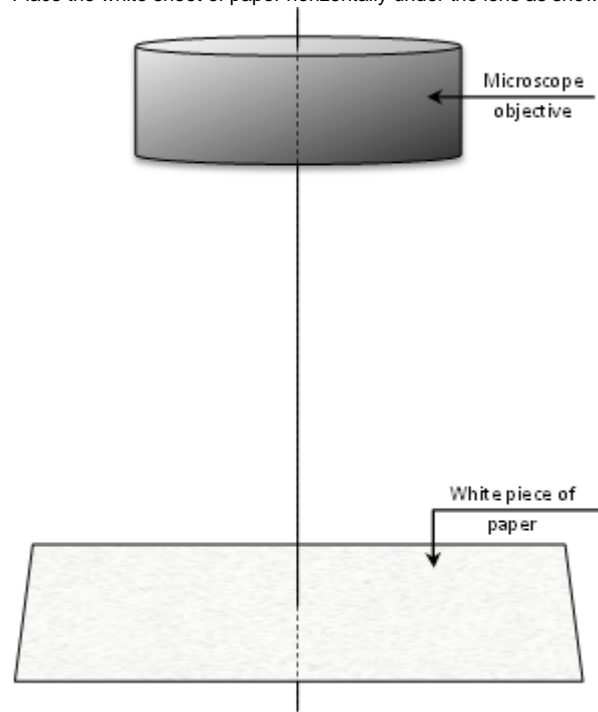


# Calibrate the stereo channels brightness

Exposure calibration is needed to minimize the differences in brightness between image from the stereo microscope cameras (left and right). In addition, the calibration and the subsequent compensation helps to maintain constant brightness while zoom and aperture can be changed.

## Step-by-step guide

1. Place the white sheet of paper horizontally under the lens as shown on the scheme:



Please make sure that the sheet is uniformly illuminated and there is no any dots, dirt and so on in the center area of the sheet.

2. For calibration you'll need running DM application. Please make sure you have working stereo view before calibration.
3. Focus precisely on on the surface. You can toggle off stereo (**Alt + S**) and use mono viewing (**Alt + L** for left camera and **Alt + R** for right one) to make sure you are focused on the surface. Better to perform this on the high zoom values.
4. Increase light to the maximum.
5. Start calibration process in the menu: **Hardware Calibration Exposure Calibration**.
6. Wait until the calibration process will be completed. Don't touch the paper sheet, don't move it, don't change the lighting. You can watch the progress on microscope display or on the progress dialog.
7. You can abort calibration process by pressing **Cancel**, but in this case, correction of the stereo channels brightness will not work properly.
8. After the complete of process you'll see the dialog with success or error message. In case of error you'll find the dm.log file in the application folder. Also you can see all usefull frames after last calibration in the AutoExpCalibrationScreens folder (the root directory of the application).

**⚠ Note:** For extended information in log you should change the logging level in the msconfig.xml file. See the details [here](#).

9. After the calibration brightness correction will be enabled automatically. All correction parameters are stored in **exp\_correction.xml** which is automatically loaded at the DM software startup.

## Related articles

- [How to use DM software without MBox hardware](#)
- [How to use DM software with PointGrey cameras](#)
- [Copying configuration from the old DM version](#)
- [How to use DM software with GT1660 cameras](#)
- [White frame in the DM software](#)