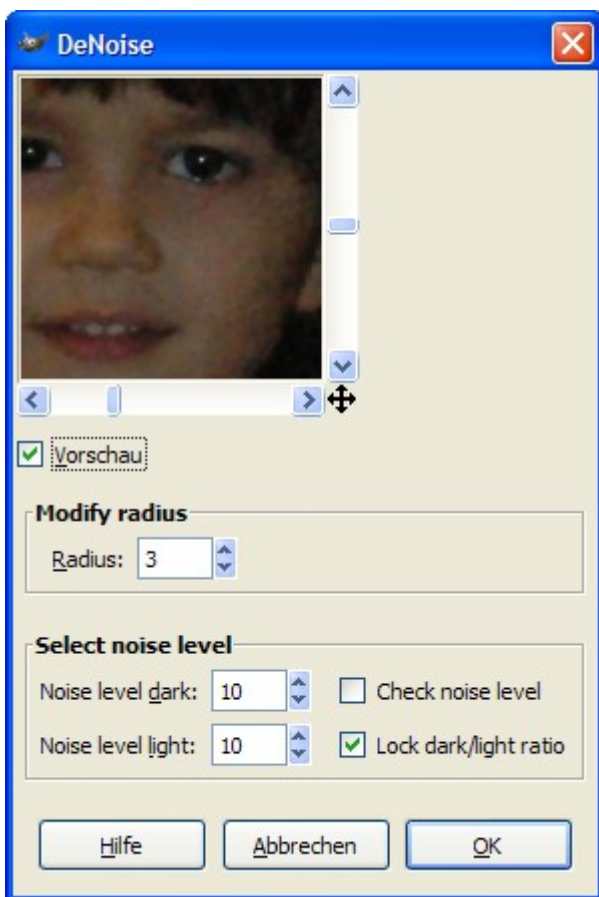


Remove image noise using DeNoise

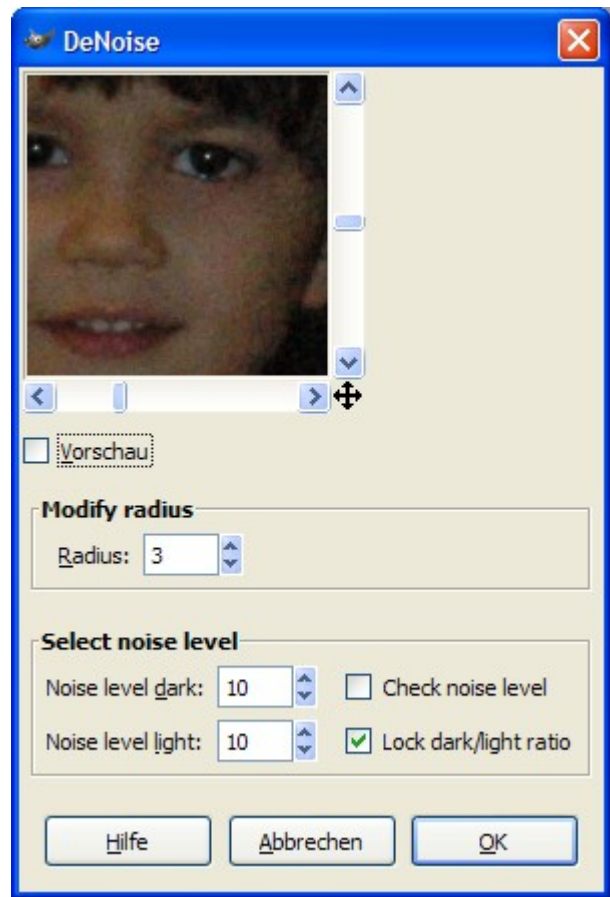
This plugin removes the noise in an image using a modified gaussian blur algorithm which adapts itself to avoid blurring details with high contrast like the light reflection in the eyes, sharp edges or thin lines.

To preserve sharpness and details with high contrast and to mainly remove the noise in the areas with low contrast, the change of intensity between neighbouring pixels is checked against the selected noise level to differ between noise and high contrast details. That means the noise level has to be selected to the minimum required to remove noise without losing details. Individual settings of the noise level for the dark and the light areas of an image are available to optimize the result.

To denoise an image open the plugin „DeNoise“ using the menu path „Filters->Enhance“ and then select „DeNoise ...“. This will open a dialog box



After removing noise



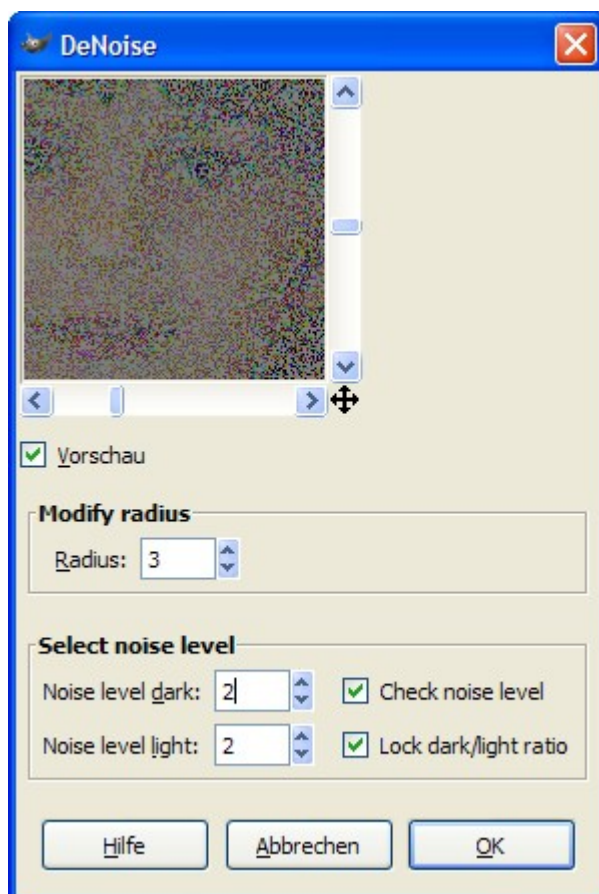
Before removing noise

with following options

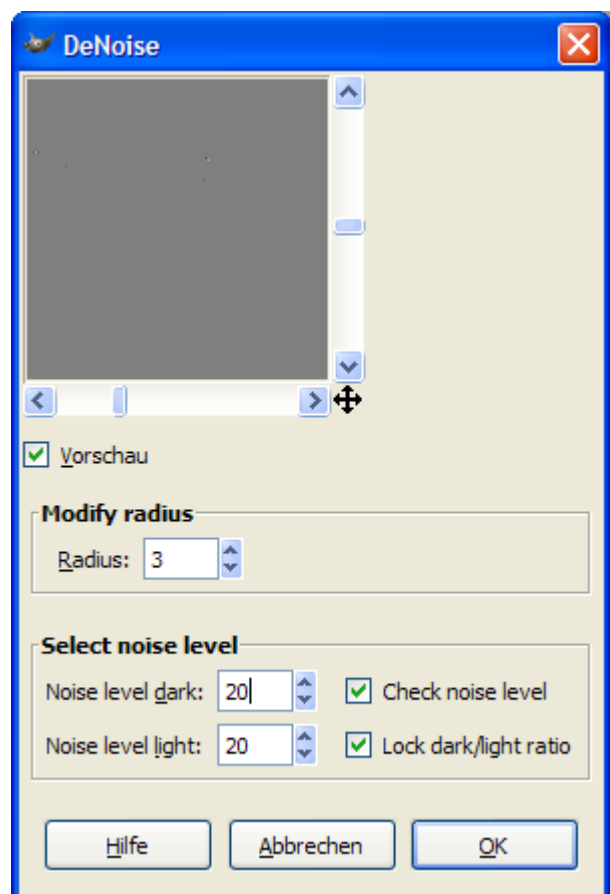
1. **Radius** : set the blur radius, typical values are from 3 to 5.
2. **Noise level dark** : set the level of noise for the dark regions of the image. Typical values are from 5 to 10, it depends on how much noise the image has in the dark

regions.

3. **Noise level light** : set the level of noise for the light regions of the image. Typical values are from 5 to 10, it depends on how much noise the image has in the light regions.
4. **Lock dark/light ratio** : setting the check mark locks the ratio between the dark and light noise level selection. Removing the check mark allows individual settings for the noise level for both the dark and the light regions. The check mark is set by default.
5. **Check noise level** : setting the check mark allows to find the noise level for both the dark and the light regions of the image. The difference of intensity between the actual and the de-noised image is calculated for each pixel of the image. If the difference is larger than the selected noise, the actual pixel is displayed, otherwise a gray pixel is displayed. That means, if the selected noise level is too low, then most of the image appears and if it is too high, the image appears totally gray.



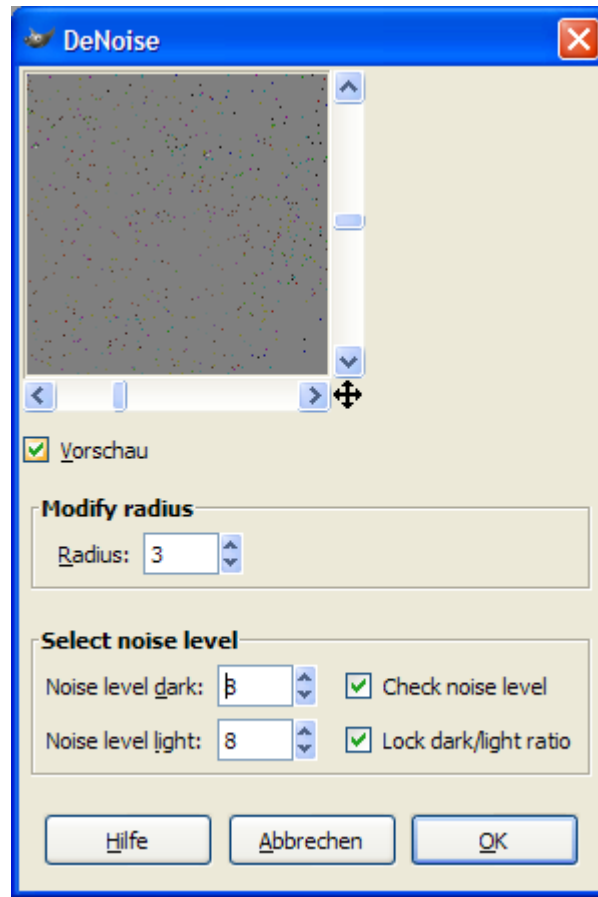
Noise level too low



Noise level too high

Ideally a value should be selected which gives a gray image with few speckles in the image regions with low contrast and more speckles in the regions with high

contrast.



There is no exact rule how find the best noise level, it depends on the image and it has to be found by trying and checking the result. This option is meant as guide to approximatly find the level.