

## FalCon CamFolder – Evaluation Method FAQ

- *Which calculation method shall I use?*

### **Standard Evaluation**

(with 5 parameters, simple radial distortion)

or

### **Full Evaluation**

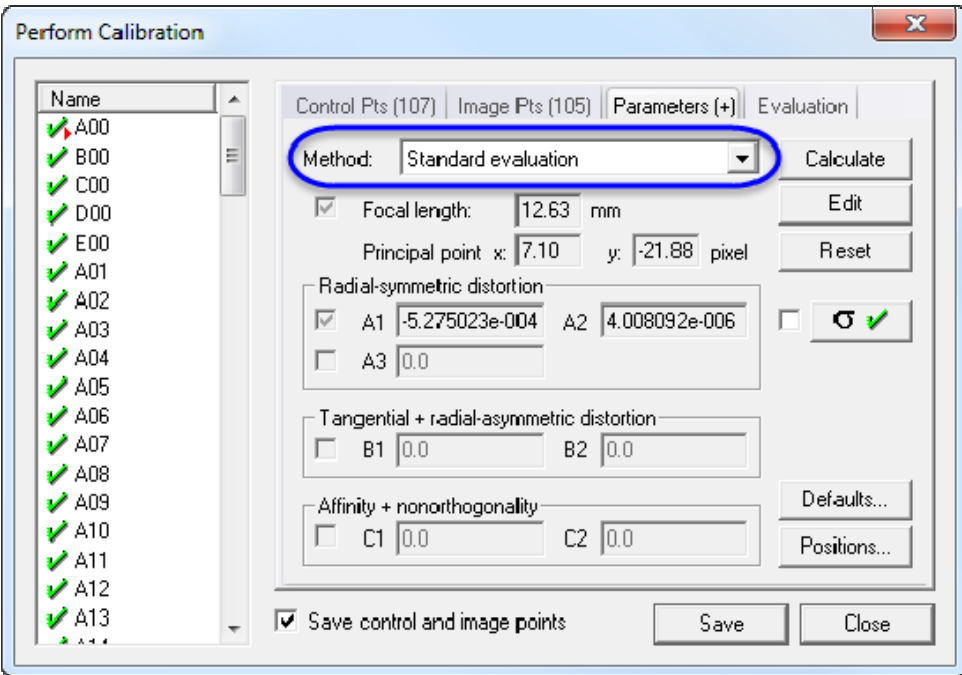
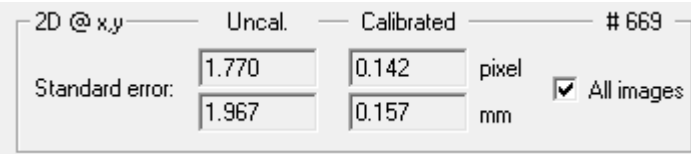
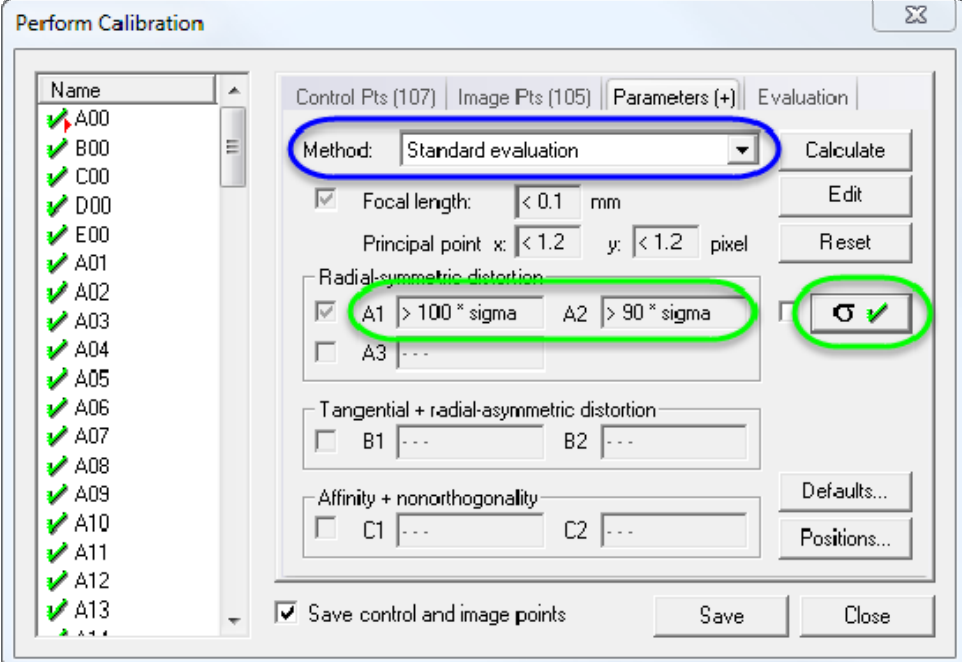
(with 10 parameters, distortions of higher order)

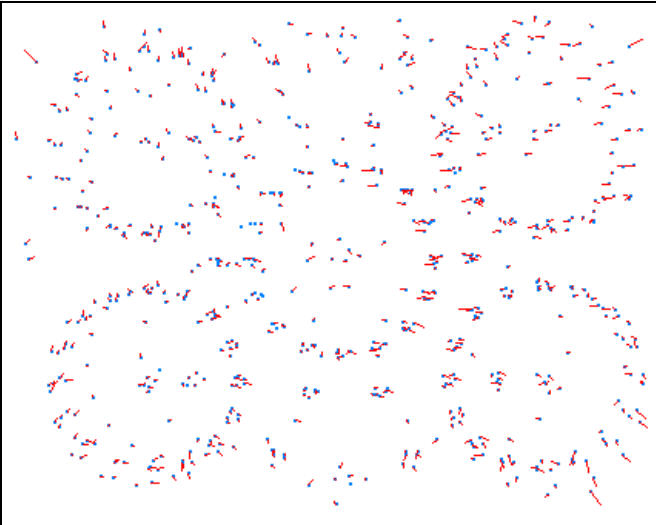
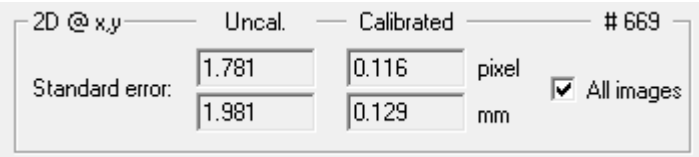
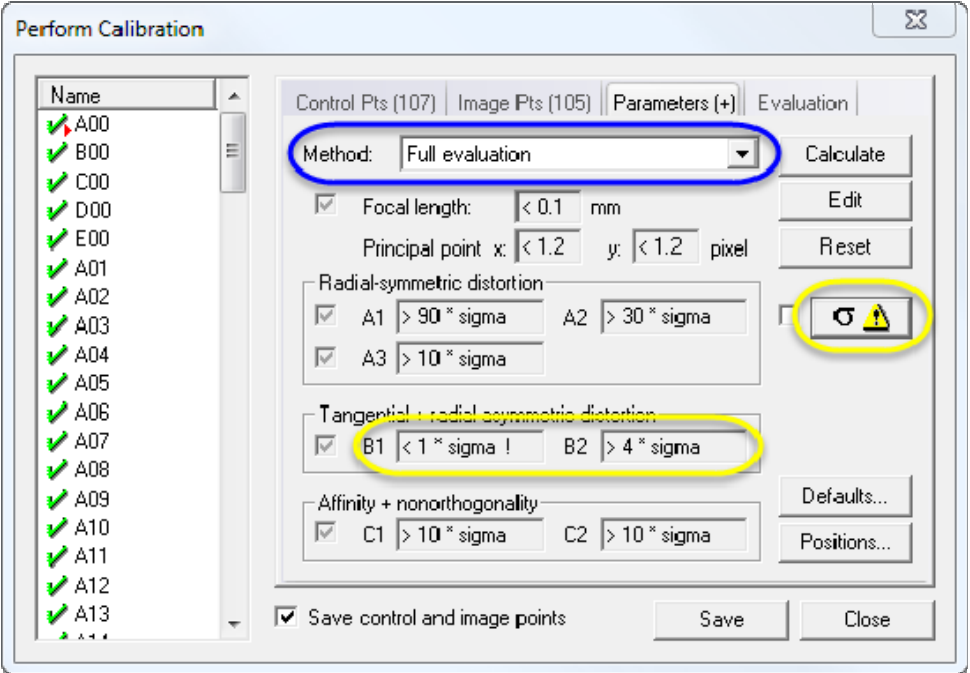
- *What is the meaning of the attention icon at sigma  $\sigma$  ?*

### **Recommended procedure:**

1. Execute **Standard Evaluation**
2. Judge the calibration result:  
blunders (delete automatically or interactively),  
residual error (over all pictures)  
**Check: considerable reduction of errors?**
3. Sigma  $\sigma$  button:  
**Check: with green hook icon = OK?**  
(are the parameters relevant ( $> 3 \times \sigma$ ) or in the range of variance?)
4. Judge the distribution of the measured points in all pictures:  
**covers the "full" picture area? Yes, then continue ...**
5. Execute **Full Evaluation**
6. Judge the calibration result:  
**significant improvement compared to step 2?**  
**No, then go back to Standard Evaluation = ok!**  
(i. e. in case of a good F-mount lens)
7. Sigma  $\sigma$  button:  
**with attention icon?**  
**Yes, then go back to Standard Evaluation = ok!**  
or for experts: check the single values of the standard deviations:
  - a) focal length and principal point stable/precise?
  - b) amplitude of parameters  $> 3 \times \sigma$  ?

**Example:**

<p>1. Standard Evaluation</p>	 <p>plausible focal length (nominal = 12.5 mm) and stable principal point (see below)</p>
<p>2. Check Errors</p>	 <p>considerable reduction of errors comparing "Uncalib." with "Calibrated"</p>
<p>3. Check Sigma</p>	 <p>stable radial distortion <math>A_{1,2} &gt; 90 \times \sigma</math></p>

<p>4. Distribution</p>	 <p>point measurements well spread in whole image frame</p>
<p>6. Full Evaluation</p>	 <p>only small improvement with respect to method Standard</p>
<p>7. Check Sigma</p>	 <p>Attention hint: additional parameters are hardly significant</p>
<p>&gt; <b>Recommend</b></p>	<p><b>Standard Evaluation</b> with high efficiency and stable parameters by few factors</p>