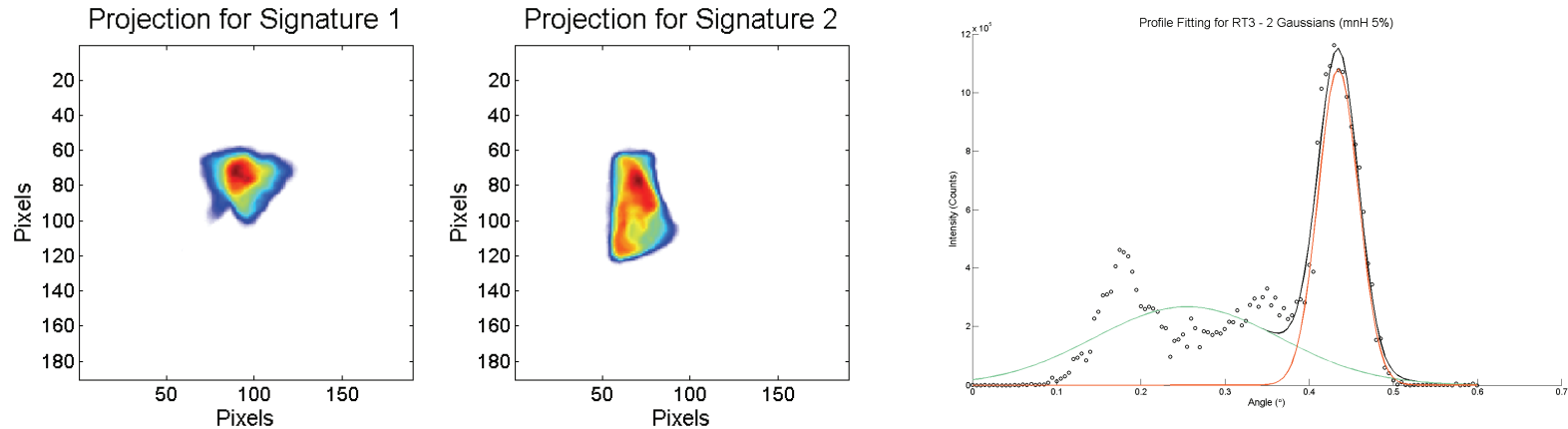# Fitting of Too Few / Too Many Gaussians

Fitting with 2 Gaussians

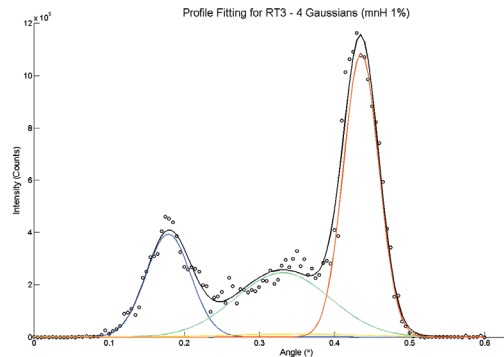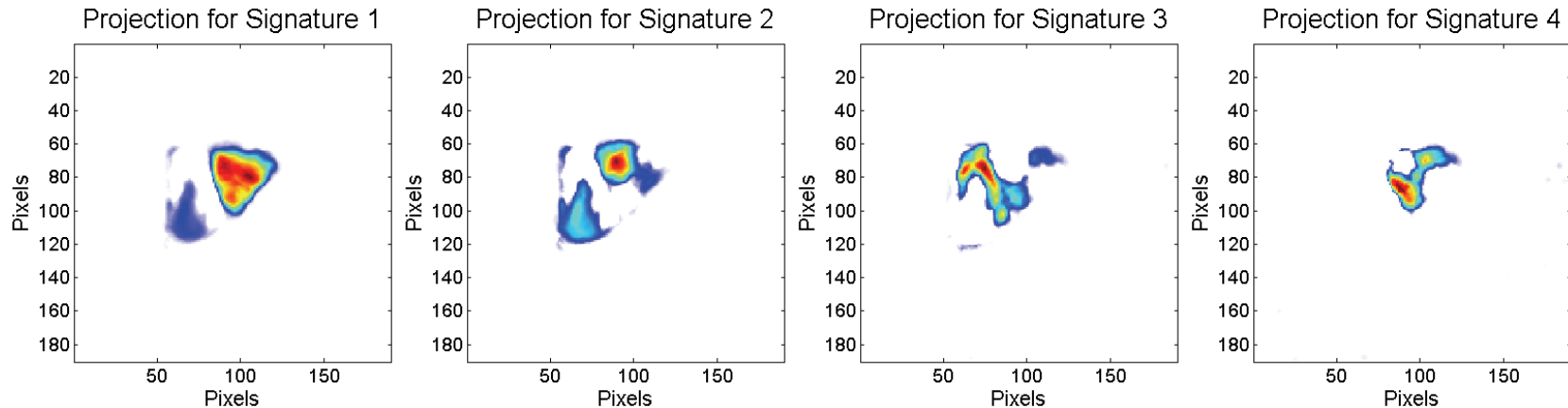Projection for Signature 1 · Projection for Signature 2 · Profile Fitting for RT3 - 2 Gaussians (mnH 5%)

- When the fit is performed with too few Gaussians then the projection for domains 1 and 2 get combined (compared to the 3 Gaussian case)
- Watching the movie made (supp mat: rt3_stills.wmv) from the still images it would appear that this incarnation does not capture what is observed in the movie

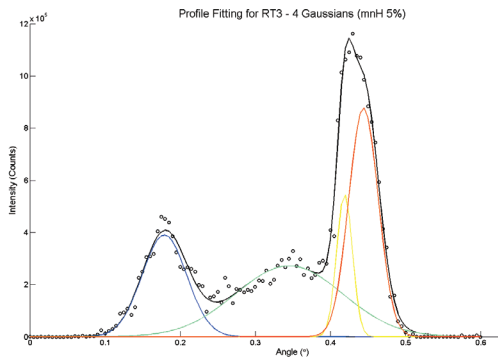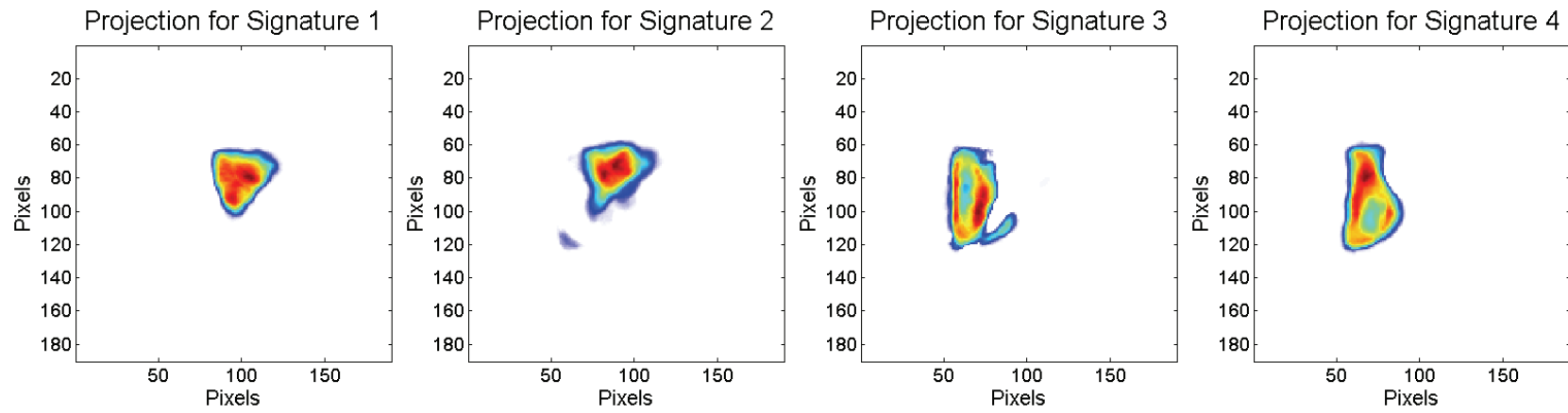# Fitting with 3 Gaussians

Projection for Signature 1   Projection for Signature 2   Projection for Signature 3   Profile Fitting for RT3 - 3 Gaussians (mnH 5%)

- Fit presented in the paper with 3 Gaussians, repeated here for easy reference

Fitting with 4 Gaussians – 1%

Projection for Signature 1 | Projection for Signature 2 | Projection for Signature 3 | Projection for Signature 4

- When the fit has 4 Gaussians there are a couple of issues that come up. First of all there are multiple, nearly equally good ways to fit 4 Gaussians into the data. In this case the minimum height that a Gaussian was allowed to have was set to 1% the maximum intensity. In effect, this fit is the same as the 3 fit case.

- The projections show unreasonable domains as compared to what is observed in the movie from the stills (supp mat: rt3_stills.wmv)

Fitting with 4 Gaussians – 5%

Projection for Signature 1

Projection for Signature 2

Projection for Signature 3

Projection for Signature 4

Profile Fitting for RT3 - 4 Gaussians (mnH 5%)

- In this case the minimum height that a Gaussian could have was limited to 5%, meaning it would have some noticeable effect on the overall fit and cause a change to the previous fit which basically wiped out one of the Gaussians.

- The effect that was observed was to break domain 3 into two parts. This was not observed in the movie.

- This is why we were confident in our original assumption of three domains based on the observed intensity profile.