3.4 Weak Beam Contrast of Stacking Faults in TEM

3.4.1 Background

- I can't say more than what I already did in the overview of content:
  - This is a „on the side“ topic that let to a highly technical paper (No. 16 on the list) for which Barry Carter did most of the work. I wouldn’t have included it here except for a special reason: It contains the first HRTEM picture that was actually taken to solve a problem! The problem was that stacking faults showed unexpected contrast behavior under certain conditions but that it was usually not quit clear if what you saw really was a stacking fault or, e.g. a micro-twin. Read the paper if you want to know more. By some fancy preparations and TEM work, I was able to show by HRTEM tha the defect we investigated was indeed a intrinsic / extrinsic stacking fault combination. My former Ph. D advisor M Wilkens supplied the theory.
    The picture shows it all: Two intrinsic and one extrinsic stacking fault meet at the dark area.
    The paper actually caused some discussion and "comments" in the literature; see, e.g., No 39 in my publication list.
- To th euninitiated this mya look like some minor details but bear in mind that what you see in a TEM is a highly abstract thing that can cause in many quite dufferent pictures. What, in your opinion, should a stacking fault actually look like? It is important that the TEM users are able to interprete thier pictures unambigously. And that is not always easy.

3.4.2 Publications

- There is one major pubication:

18 FÖLL, H., CARTER, C.B., WILKENS, M.: Weak beam contrast of stacking faults in TEM. Phys. Stat. Sol. (a) 74 (1982) 353 (42 citations)
A respectable number of citations for a rather specialized topic

- There are also some come conference proceedings and other minor stuff plus some "comments" I lost t(rack of except for No. 39); see the the publication list for all of this.

3.4.3 Pictures

- I give you the pictures in the paper. I don't have real originals any mor but the prints left are of good quality.

Stacking Fault Contrast Pictures