

Correlative microscopy – the issue of precise positioning of the sample and its impact on the experiment outcome

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Recent development of the diagnostic instrumentation allows to perform a number of advanced experiments without the sample repositioning. As the result, all acquired data refer to that same area, enabling reliable information about the tested object. Yet, one can easily point testing procedures requiring moving the specimen between instruments, therefore losing track of certain observed spots. Moreover, a variety of tasks, including the observation of the material's degradation, requires cyclic moving of the investigated specimen between the measurement device and the setup providing exposition to specific media. Once the sample is moved, it is extremely difficult to perform the submicron scale measurements in that same set of spots. As one must take into account some level of local non-homogeneities of the sample, a significant variations of investigated properties must be considered if no repeatable specimen positioning is provided.

During the lecture the set of examples of correlative microscopy investigations will be presented, with particular focus on the sample positioning issues. Also, the results of the materials' deterioration AFM observation will be discussed in terms of careful tracking of the scanning areas.

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