

WORKGROUP FOR MULTIPHASE FLOWS

Automatic picture analysis

The automatic image analysis supports and completes the methods of visual evaluation of geometrical particle characteristics. It is used in connection with image-giving techniques, in particular the light microscopy. Accordingly, not the particles themselves, but their pictures are measured.

The advantage of the method among other things consists in the fact that a multitude of different particle characteristics can be determined. To this belong also measured variables characterising the form, which, in general, are not predictable with other measuring techniques. Additionally, modern image analysis methods support the problematic step of separation of the particles with mathematical methods.

The measuring principle is easy to understand. The image of a number of as isolated as possible particles, produced by the microscope, is transferred into a computer by an electronic camera. A graphic image is produced, of which now the particle size e.g. statistical diameters, length of chord distributions, the particle projection surface or form factors are determined. The result is the number distribution of selected characteristics. Alternatively, the measuring process can run interactively or automatically.