



Automated Dynamic Image Analysis and the two-dimensional Kolmogorov-Smirnov test applied to Pleistocene sediments of Flanders, Belgium.

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There is increasing interest in understanding how sedimentary particles undergo size and shape changes as a result of an evolving environment, in particular under the influence of climate changes, transport and sedimentation processes. Improved insights concerning these issues allow to better understand these processes and to reconstruct past environmental conditions. Despite considerable research efforts, the understanding of particle behaviour and more specifically size and shape evolutions is still rather incomplete.

The application of a novel method (based on image analysis) on Pleistocene sediments, can contribute to document subtle changes in sediment size and morphology. Automated Dynamic Image Analysis (ADIA) defines size and shape characteristics of a large number of particles (typically 5,000 to 50,000 or more), in the size range between 10 to 1,500 μm . Considering the characteristics of the hereby obtained data, the two-dimensional Kolmogorov-Smirnov test is used. An overview of the advantages of these methods for particle analysis will be presented, covering the application of the methods to a variety of sediment.