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3D reconstruction of blood vessels based on MRI

Diseases of blood vessels are a widespread problem in industrial countries today. The crucial aspect in treatment of these diseases is the reaction time from first symptoms to a definite diagnosis and the beginning of the accurate treatment. Therefore, software packages allowing the reconstruction of in vivo blood vessels based on a separation of blood and surrounding tissue are supporting medical diagnoses in modern radiology. The Upper Austrian Research (UAR) has developed such a package which is currently in evaluation by AKH Linz and the Wagner Jauregg hospital also in Linz. In our talk we give an overview about methods of MRI allowing the 3D reconstruction of blood vessels as well as a short demonstration of the developed software.

Furthermore, we will give a short overview of our ideas concerning the extension of the program regarding simulation of hemodynamics inside the reconstructed vessels.