

Data Collecting Technology on Virtual Chinese Human

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Objective: To explore new techniques of data collecting for the Virtual Chinese Human (VCH), one of the key national scientific projects in China.

Methods: New techniques were conceived on the basis of a careful study of the current Chinese processing equipment available for the VCH. Compared with VHP and VKH data collecting, in our experiment the cadaver was fixed and frozen in standing posture instead of in lying posture, serial-sectioning was done in refrigerator without moving the cadaver from here to there, the vascular system that had not been displayed clearly enough in the other projects was constructed, and the sectioning accuracy was raised from 0.33mm to 0.1mm.

Results: The standing posture sectioning technique made the data collected more accurate or closer to the normal anatomical structure. The direct refrigerator sectioning method reduced the data missed. The technique of vascular cast improved the clearness of arteries in the images of VCH. Small pixel size (0.1mm*0.1mm) and the thickness (0.1mm) of sectioned images will be more helpful in showing the small anatomical structures that are greater than 0.1 in diameter.

Conclusion: Our new techniques can improve the accuracy of the sectioned images so as to be more helpful in making the complete 3D images for the VCH.

Keywords: Virtual Chinese Human, Serial Section, Data Collecting