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4. Numerical Visualization of Blood Flow in the Cerebral Artery

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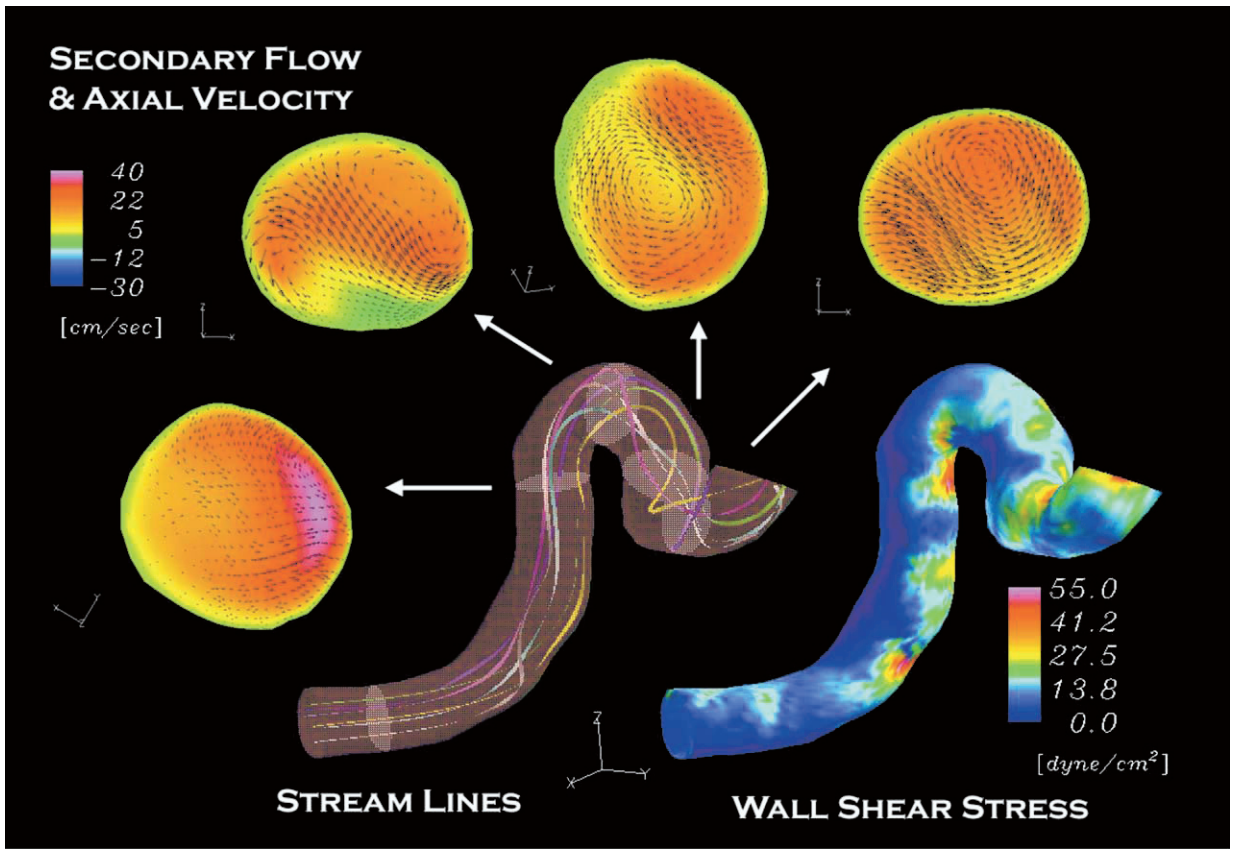

Clinical statistics show that the cerebral aneurysm are frequently generated at some specific areas. The abruptly curved shape of the artery shown in this figure is called “carotid siphon” and here is the area with high risk of generation of the cerebral aneurysms. We have developed a numerical analysis system which includes pre-processing, numerical simulation and post-processing. In the procedure of pre-processing, computed tomographic angiography is used. These figures show the results of numerical simulation. Complex secondary flow exists in the flow field and the wall shear stress concentrates on some specific areas in the artery.