

## **Mathematical Model of Vessel Bifurcation Oriented at Cardio Surgery Clinic**

**V.A. Lishchuk, D.Sh. Gazizova, S.V. Frolov, S.N. Makoveev, S.G. Farea**

*Research Center of Cardiovascular surgery named after  
A.N. Bakulev, RAMS, Moscow;  
Tambov State Technical University, Tambov*

**Key words and phrases:** bifurcation; mathematical model; vessel.

**Abstract:** The paper presents mathematical description of vessel bifurcation model. The volume, pressure and flow as well as their dependence on rigidity, tonus, resistance and persistence are taken into account. The model is constructed in terms enabling to include bifurcation in the composition of the bifurcated multi-level vessel system.