## Second International Undergraduate Research Conference, IUGRC

Military Technical College, Cairo, Egypt July 24 –27, 2017



073-CFD

## Effect of Valve Internal Geometry on the Flow Field

Abdallah Mosaad Abdallah

Student, 2nd Mechanical Engineering Dept., Zagazig University, Egypt, abdallamosad22@gmail.com Supervisor: Prof. Dr. Ahmed Farouk AbdelGawad Mechanical Power Engineering Dept., Faculty of Engineering, Zagazig University, Zagazig 44519, Egypt, afroukgb@gmail.com

flow simulation was performed on four commercial valve models having different internal geometry configurations. The commercial software Solidworks 2014 was used to understand the effect of the valve geometry on the flow pressure and velocity. Boundary conditions of each valve were set to easily observe the behavior of the flow within each valve. Also, pressure drop  $\Delta P$ , and loss coefficient Kl were determined. Moreover, 3D flow visualizations of pressure and velocity were presented.